

**ANNUAL BIOLOGICAL MONITORING OF THE
STANTON ENERGY CENTER MITIGATION AREAS
2003 Monitoring Event**

Prepared for:

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EXECUTIVE SUMMARY

Enhancement and restoration of uplands and wetlands were undertaken during mitigation activities as part of Unit 2 construction (completed in 1995) of the Curtis H. Stanton Energy Center. Mitigation activities included planting of pine and cypress seedlings and saplings and efforts to restore a more natural hydrologic regime to the site through reconfiguration and filling of ditches and installation of culverts and a weir.

Vegetative data was collected to assess the tree plantings and mitigation activities. In addition rainfall data and readings from staff gauges and piezometers has been gathered since 1993 to assess the hydrologic restoration efforts.

The rainfall, staff gauge and piezometer data collected at the site indicate that water levels in the wetland areas appear to be fluctuating with the rainfall. The staff gauges and piezometers are tracking with the annual rainfall and based on the inundation and high ground water levels recorded, the wetlands clearly demonstrate wetland hydrology. Analysis of the staff gauge and piezometer wells within Mitigation Area 3.7 reveals that hydrologic conditions in Mitigation Area 3.7 have been restored to a more seasonally fluctuating hydroperiod. After installation of the culverts in 1994, staff gauge and piezometer levels began fluctuating in accordance with the annual rainfall.

The mitigation efforts in the herbaceous wetlands within Mitigation Areas 3.5 & 3.6 also have been successful. The ditch blocking has successfully resulted in an increase in wetland hydrology and wetland vegetation around the perimeter of the wetland, apparently increasing the size of the wetland. The cypress domes in Mitigation Areas 3.5 and 3.6 are also meeting success by experiencing no adverse effects from the altered hydrology.

In addition, many of the tree planting areas are meeting the established success criteria. These areas include the slash pine saplings in Mitigation Area 3.2, the southern pond cypress seedlings in Mitigation Area 3.1, and the pond cypress seedlings in Mitigation Area 3.6. The majority of the rest of the tree planting areas are near the success requirement. Most of these areas have maintained their current tree densities and percent survival for many years indicating that they are stable habitats capable of supporting the desired species. Only a few of the planting areas are not successfully establishing.

The mitigation components that have achieved success should be released from further monitoring and be managed as part of the overall Stanton Energy Center management plan. This should allow resources to be focused on getting the remaining areas to success. The mitigation methods of each site that has not achieved success should be reassessed and monitoring continued. Reassessment should include potential supplemental plantings, potential relocation of the planting area, and re-assessment of the success criteria. The purpose of the habitat and the success criteria should be evaluated. If the goal of the area is to provide habitat (foraging and/or nesting) for red-cockaded woodpeckers, a lower tree density may be sufficient, and the mitigation area may be successfully meeting its intended goal.

1.0 INTRODUCTION

1.1 Project Description

Orlando Utilities Commission (OUC), Florida Municipal Power Agency (FMPA), and Kissimmee Utility Authority (KUA) were provided approval for the Supplemental Site Certification Application (SSCA) for the expansion of the Curtis H. Stanton Energy Center to include Unit 2 in December 1991. Construction of Unit 2, entirely within the Stanton Site 1 construction area, was completed in 1995. The Unit 2 construction included a 14 mile long 230 kV transmission line. The transmission line extends from the southern boundary of the main facility to the Pershing Substation to the Taft Substation 230 kV transmission line. An alternate access road extending approximately 1.5 miles from the south end of the main facility to the Bee Line Expressway was constructed as part of the Unit 1 construction. Both the transmission line and access road right-of-ways were located within the previously certified railroad corridor.

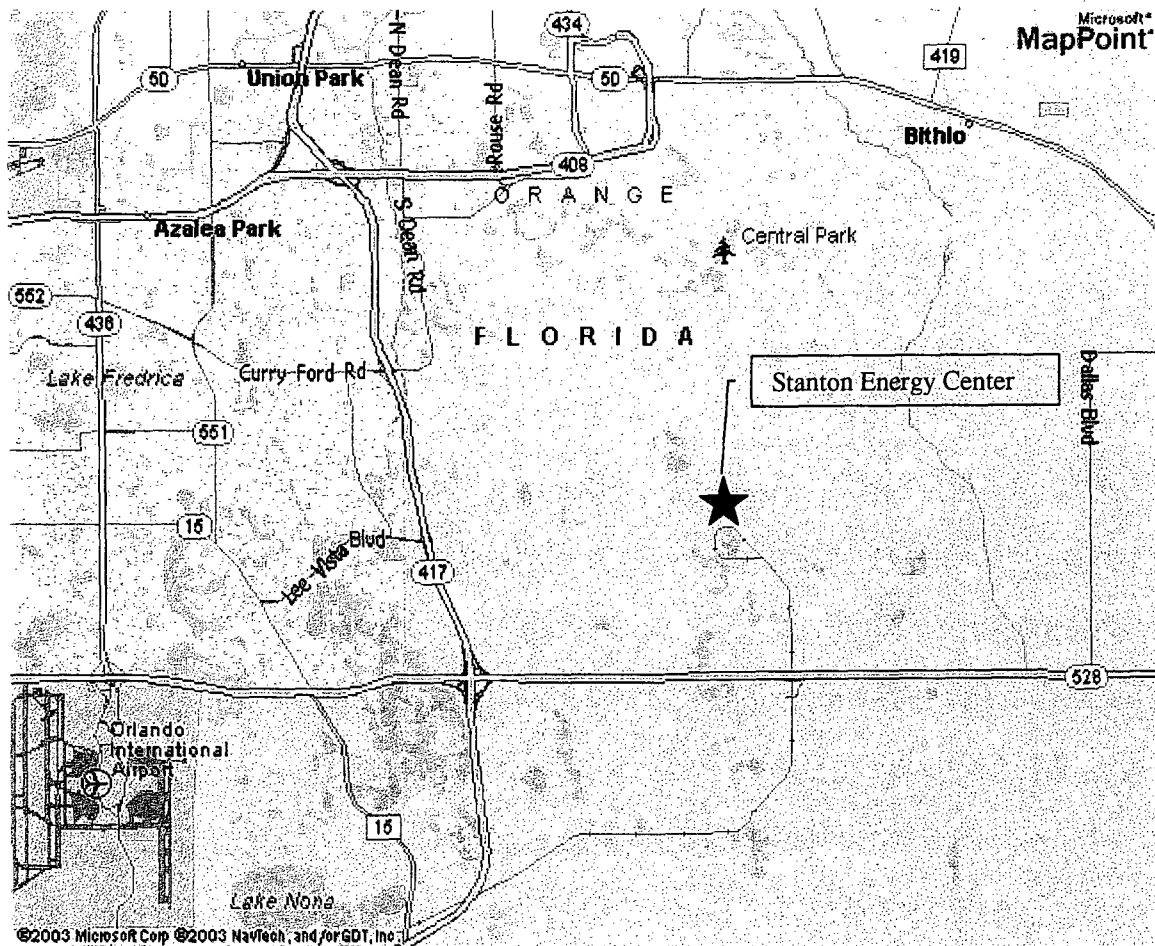
Wetland impacts resulting from the construction of Unit 2 and associated facilities included conversion of forested wetlands to herbaceous wetlands and minimal amount of filling in the certified railroad/transmission line corridor. A total of 6.17 acres of fill occurred in jurisdictional wetlands: 0.10 acres in forested wetlands and 6.07 acres in herbaceous wetlands. Slightly less than 27 acres of forested wetland were cleared for installation of the transmission line and other facility features.

As a result of overlap in wetland jurisdiction by the various regulatory agencies, a single Joint Agency Mitigation and Monitoring Plan (JAMMP) was developed to satisfy all regulatory agency requirements and to incorporate all mitigation and monitoring plans associated with the above stated impacts into one document. The following report describes the success of the mitigation activities and planting programs.

1.2 Site Description

The Stanton Energy Center is located 8.5 miles southeast of Orlando, Florida within the Floridian section of the Atlantic Coastal Plain in eastern Orange County just west of the Big Econlockhatchee ("Big Econ") River (See Figure 1-1). The site is situated between the Little and Big Econ Rivers and south of U.S. Highway 50. The Big Econ includes a 25 mile wide basin with a south to north 38 mile long flow-way. Soils of the area have a high sand content, are strongly acid, low in nutrients, and are often underlain by an organic hardpan from 14 to 60 inches below the land surface.

The site occupies 3,280 acres, of which approximately 2,000 acres are maintained in a relatively natural state of longleaf pine (*Pinus palustris*) dominated forest interspersed with cypress domes, bayheads, and numerous connecting wet prairies. Construction and land clearing activities for Unit 1 occurred from 1983 to 1986 with the priority of establishing a red-cockaded woodpecker (*Picoides borealis*) management area in the 2,000 acre buffer area surrounding the main facility. Condition 31 of the Unit 1 Site Certification in 1982 addressed both management and monitoring guidelines for the 2,000 acre red-cockaded woodpecker (RCW) management area. The mitigation projects for Unit 2 impacts occurred primarily within the 2,000 acre management area and included both upland and wetland mitigation programs. Activities within the mitigation tracts included planting areas for



**Figure 1-1: Curtis H. Stanton Energy Center, Orange County, Florida
Location Map.**

longleaf pine (*Pinus palustris*) and pond cypress (*Taxodium ascendens*) along with ditch plugging for wetland enhancement.

During periods of high groundwater levels and rainfall, most surface drainage of the Stanton Site flows in a northeasterly direction toward the Big Econ via the Hart and Cowpen Branches and an unnamed tributary (See Figure 1-2). These tributaries are headwater streams to the Big Econ and have had portions of their drainages impacted by construction of fire lanes and ditches prior to the time that the Stanton Energy Center was constructed. The ditches and fire lanes were installed in order to promote more rapid drainage of the site and to control both wildfires and prescribed burns. These connecting wetlands provide the major drainage courses for surface water runoff. Many of the drainages on the mitigation sites, which often consist of a series of inter-connected wetlands including cypress strands, cypress domes, and wet prairies, are aligned in a north-south direction and are seasonally isolated.

The natural vegetation communities of the site are typical of the region and the Big Econ drainage. These Floridian coastal plain habitats consist of mesic longleaf pine flatwoods, scattered pond cypress domes, mixed hardwood swamps, wet prairies, and xeric oak scrub. This general landscape feature of higher, drier flatwoods and scrub with interconnected wetlands occurs along an unnamed scrub ridge running from the east side of Orlando to Yeehaw Junction. In the flatwoods, the shrub layer often includes saw palmetto (*Serenoa repens*), stagger bush (*Lyonia fruticosa*), fetterbush (*L. lucida*), and gallberry (*Ilex glabra*) (Myers and Ewel, 1990). The open pine canopy allows the development of a rich savannah-like ground cover of herbaceous species including wiregrass (*Aristida beyrichiana*), lopsided indiagrass (*Sorghastrum secundum*), fascicled beakrush (*Rhynchospora fascicularis*), broomsedge bluestem (*Andropogon virginicus* var. *virginicus*), and bottlebrush threeawn (*Aristida spiciformis*). The scrubby flatwoods included a shrub layer of myrtle oak (*Quercus myrtifolia*), sand live oak (*Quercus geminata*), and tarflower (*Befaria recemosa*). The ground cover contained many of the same species as the mesic pine flatwoods. Uplands account for about 88% and wetlands about 12% of the 2000-acre management area.

The wetland communities within the 2000-acre management area are primarily cypress domes and strands (55.0%) with lesser amounts of mixed hardwood swamp (21.0%), wet prairies (10.9%), bayheads (10.4%), and pond pine (*Pinus serotina*) flatwoods (2.7%). In cypress swamps, stand densities averaged 461 stems per acre with pond cypress (*Taxodium ascendens*) being the dominant species. Cypress swamps ranged from 0.25 to 19.5 acres in size and accounted for 7% of the 2000-acre management area. Large cypress trees were historically logged from the area, with the last logging probably occurring during the 1930's. Old rotting stumps, many 30-40 inches in diameter, still remain in some cypress domes, but most of the largest living trees rarely exceed 14 inches in diameter. The entire area was burned bi-annually during the winter for range management purposes prior to power plant construction. This fire management practice has continued under the current management plan and includes both winter and summer burns.

A variety of historic impacts (prior to Stanton construction) have affected on-site wetlands including logging, drainage alteration, and fire. Prior to the construction of Units 1 and 2, many of the upland forests experienced impacts similar to those described for the wetlands. Drainage alterations were conducted in order to allow easier access for timbering of both uplands and wetlands. Apparently, a number of major logging episodes occurred on-site including 1979-80, 1930's, and around 1900.

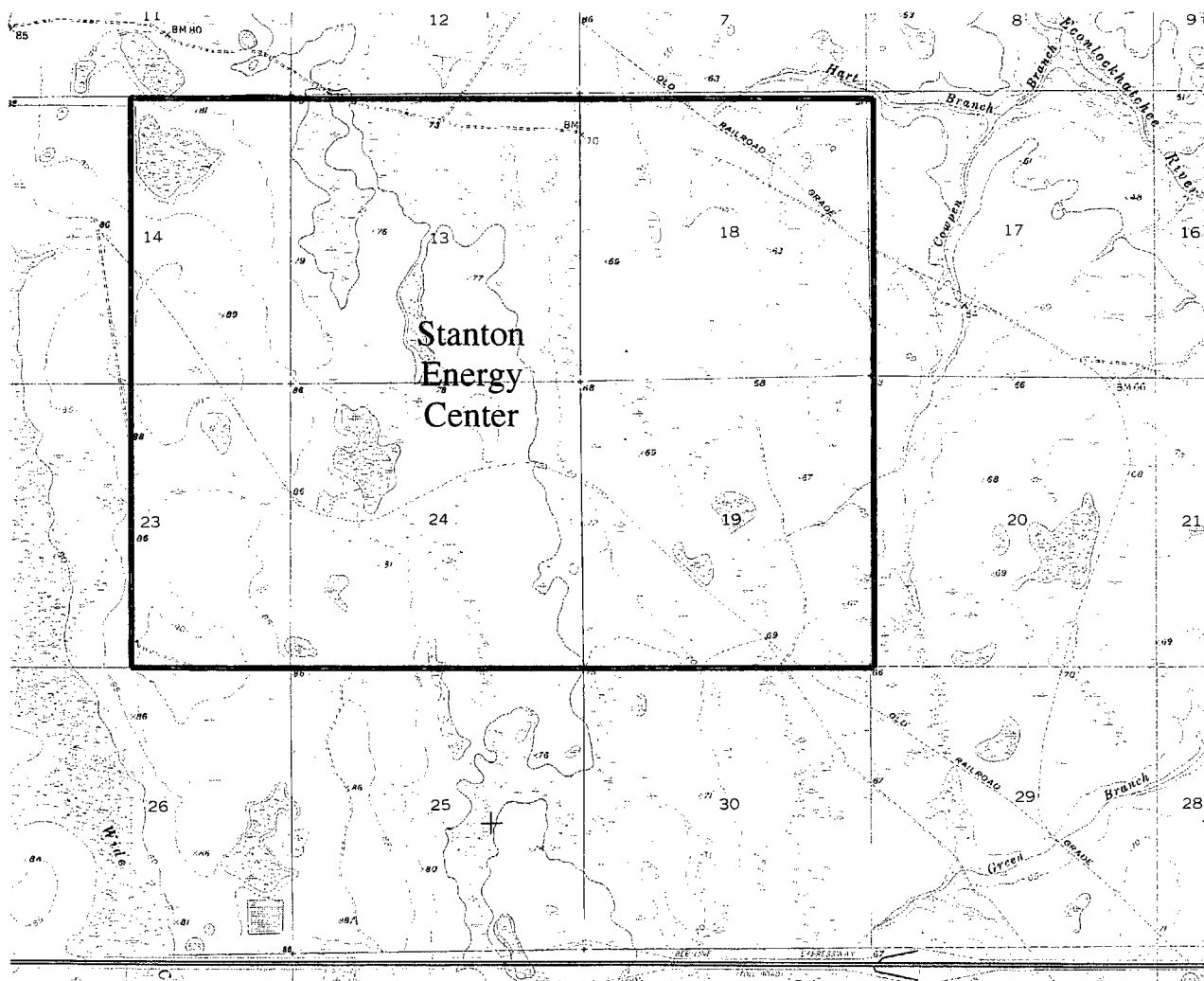


Figure 1-2: USGS Quadrangle Map (Narcoossee NW, FL Quadrangle – Photorevised 1980).

During the 1930's, tramroads and ditches were constructed which altered hydrology and tended to dewater the site and its wetlands more rapidly than pre-impacted conditions. Rim ditches were also placed around cypress areas to keep them from burning. Fire has had a substantial effect on some wetlands as evidenced by recent past burn-outs in two on-site and one off-site wetland system. In central Florida, fires were historically set primarily in the winter to enhance cattle grazing. These activities, especially ditching and the placement of fire lanes around the cypress areas, have allowed the encroachment of wax myrtle (*Myrica cerifera*) and other weedy species at the edges of many of the cypress wetlands and wet prairies. Much of the current mitigation effort is aimed at restoring historic drainages and hydroperiods in these areas to reduce the occurrence of these opportunistic species.

2.0 METHODS

2.1 Mitigation Areas

Seven (7) mitigation areas were established and described in the JAMMP (see Figure 2-1). The monitoring plan was developed in order to evaluate expected mitigation results from the seven areas. Staff gauges and piezometer wells were installed throughout the wetland mitigation sites to provide information on the respective hydroperiods of each area. An aerial color photograph encompassing all of the Stanton Energy Center mitigation sites is provided as Figure 2-2. A false color infrared photograph encompassing all of the Stanton Energy Center mitigation sites is provided as Figure 2-3.

The following upland and wetland mitigation areas were selected for compensatory changes:

Area 3.1 - Railroad North

The main portion of this area is located within a triangle-shaped parcel between the southeastern end of the railroad loop and the southerly transmission line. Small additional areas for pine planting occur between the railroad lines and access road. Longleaf pine saplings varying between 3.5 and 8 feet in height were planted in the areas between the railroad and access road (see site map in Appendix A). The triangular area includes upland areas with pine tree plantings and wetland areas with planted pond cypress seedlings. The second area was formed at the junction of the railroad spur loop and is adjacent to a small cypress dome. Longleaf pine seedlings and saplings and pond cypress seedlings were initially planted between November 1993 and February 1994. The longleaf pine saplings suffered a high mortality, probably due to excessive wetness within the sapling planting area. A second planting occurred in January and February 1996. During the second planting, the longleaf pine sapling planting area was moved to a drier area north of the initial planting area (see Appendix B for specific planting details). However, in the spring of 2003, most of longleaf pine planting area was removed for the installation of a natural gas pipeline. OUC will be negotiating with the regulatory agencies to determine adequate replacement of this planting area.

Area 3.2 - Railroad South

Railroad south is a narrow strip of land adjacent to the western side of the railroad extending from the southern property boundary northward to the lower third of the western side of the railroad loop. This land was primarily pine flatwoods prior to railroad construction. Overland flow was blocked with the construction of the railroad and several interconnected seasonal ponds formed in the area. Longleaf pine seedlings were planted in the Riparian Habitat Protection Zone (RHPZ) on the western side of the area. Pond cypress saplings were planted throughout the wet portions. The eastern side of the wetland on the railroad berm was planted with slash pine (*Pinus elliotii*) trees varying between 10 and 15 feet in height. Three staff gauges were established in the lower, middle, and upper reaches of the area, respectively (see site map in Appendix A). Longleaf pine seedlings, pond cypress seedlings and saplings, and slash pine trees were initially planted between November 1993 and February 1994. A second planting of longleaf pine seedlings occurring in January and February 1996 (see Appendix B for specific planting details).

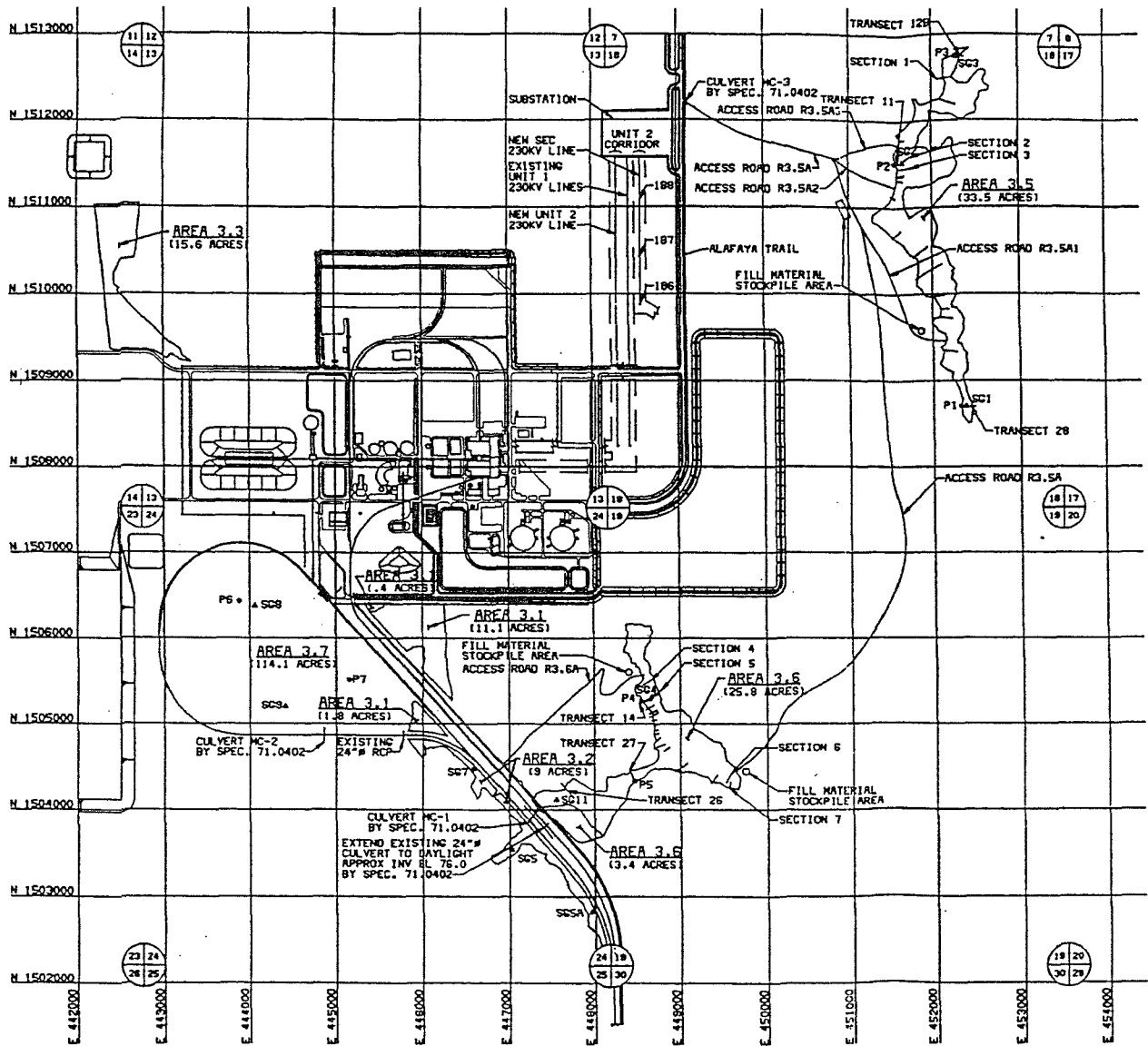


Figure 2-1: Mitigation Area Location Map. (Scale 1" = 2,000')

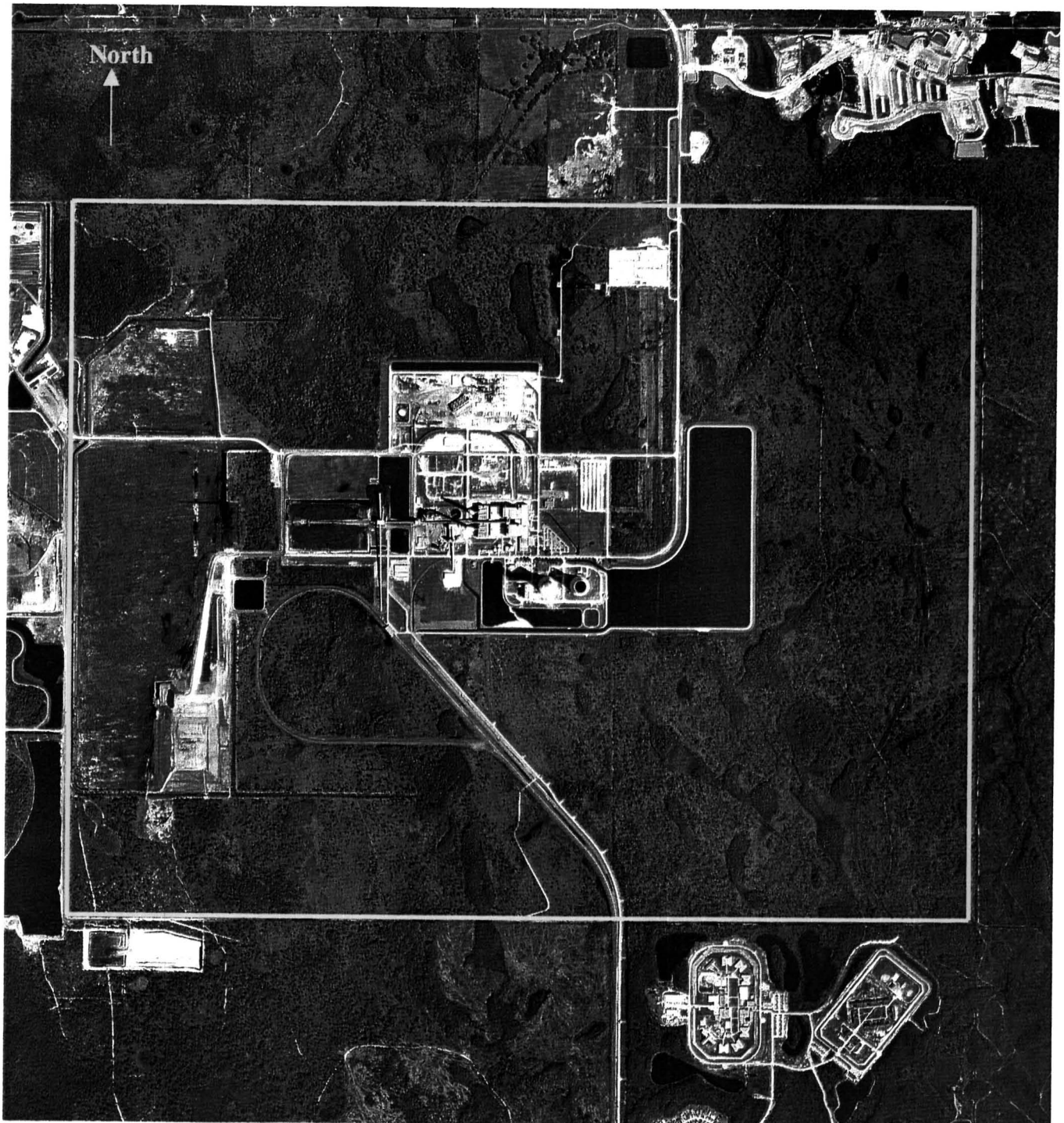


Figure 2-2: Curtis H. Stanton Energy Center Aerial Photograph.
Photography date: April 2, 2003 (Scale 1" = 2,250')



Figure 2-3: Curtis H. Stanton Energy Center Color Infrared Photograph.
Photography date: April 13, 2003 (Scale 1" = 2,250')

Area 3.3 - RCW West

This 15.6 acre disturbed upland area is situated in the northwestern portion of the site in an area cleared for stockpiling of building material during Unit 1 construction. Prior to construction of Unit 1, the area consisted of longleaf pine flatwoods with sparse tree cover. Native vegetation was removed from the western part of this mitigation area. The southern half of the area has been impacted by the construction of a drainage ditch and past storage of material. Longleaf pine seedling planting was the only mitigation activity conducted in this area (see site map in Appendix A). The longleaf pine seedling plantings occurred between November 1993 and February 1994, with a second planting in January and February 1996 (see Appendix B for specific planting details).

Area 3.4 - Transmission Line North

This is an upland mitigation area along the existing transmission line just south of the main on-site substation near the northern property boundary. The area was primarily longleaf pine flatwoods with a sparse tree cover prior to Unit 1 construction. Native vegetation was removed during transmission line construction for Units 1 and 2. Longleaf pine and slash pine saplings from 4.5 to 8.5 feet in height were planted in February and March of 1996 (see Appendix B for specific planting details). These trees were grouped in five distinct planting areas along the transmission line (see site map in Appendix A). However, in the spring of 2003, most of longleaf pine trees were removed because of interference with the power lines. OUC will be negotiating with the regulatory agencies to determine adequate replacement of this planting area.

Area 3.5 - East Prairies

Area 3.5 is a northerly-flowing series of interconnected wet prairies and cypress domes located on the northeastern corner of the RCW management area. The adjacent RHPZ buffer is longleaf pine flatwoods. The wetland system was altered prior to certification studies of Unit 1 by ditching of the interconnecting wet prairies from the south to the north property boundary. As mitigation for Unit 2 construction activities, these ditches were plugged throughout the prairies with clean fill and stabilized in the lower reaches with ground cloth. Longleaf pine seedlings were also planted in the RHPZ buffer. The initial longleaf pine seedling plantings occurred between November 1993 and February 1994, with a second planting in January and February 1996 (see Appendix B for specific planting details). Three piezometer wells and three staff gauges were installed in the lower, middle, and upper reaches of the area. Fourteen (14) vegetation transects were also established throughout the system (see site map in Appendix A).

Area 3.6 - RCD

Similar to Mitigation Area 3.5, Mitigation Area 3.6 also lies in a series of interconnected wet prairies and cypress domes along with a tributary extending from the transmission line, railroad, and access road corridor area to the east. The study area consists of two cypress domes and two disturbed prairies, one at the north end of the area and one between the two domes. Ditches were previously constructed through the prairie and at the lower end of each cypress dome. An old tram road bed and associated ditch were also located on the eastern side of the system. These ditches historically promoted more rapid dewatering and shortened hydroperiods in the area. A total of 6.35 acres of wetlands were enhanced along with 4.73 acres of RHPZ.

The ditches, including the upper and lower end of the tram road, were leveled to existing surrounding grade. Pond cypress seedlings were planted in the disturbed prairie between the two

cypress domes. Longleaf pine seedlings were planted in the disturbed upland area near the railroad and alternate access road. The longleaf pine and pond cypress seedling plantings occurred between November 1993 and February 1994, with a second planting of pond cypress in 1995 and a second planting of longleaf pine in September 1996 (see Appendix B for specific planting details). One piezometer well at the north end and two staff gauges on the northern and western fork of the system were installed. Twenty-four (24) vegetation transects were established throughout the system (see site map in Appendix A).

Area 3.7 - Railroad Loop

This mitigation area included 95 acres of hydrologic enhancement. Prior to Unit 1 construction, this area consisted of pine flatwoods, cypress swamp, mixed hardwood swamp, and pond pine (*Pinus serotina*) swamp. Construction of the railroad loop created hydroperiods that were of higher and longer duration than those which existed prior to Unit 1 construction. As a result, a large area of freshwater marsh developed. The marsh formed in an area intermediate between the swamps and the more upland pine forests. Most of this marsh developed in the lower elevations that were formerly occupied by pond pine and longleaf pine flatwoods. In 1992, many of the longleaf pines in this area still exhibited signs of water stress. A culvert was placed under the south-berm of the railroad loop. This area is monitored by two staff gauges and two piezometer wells (see site map in Appendix A).

2.2 Sampling Procedures

2.2.1 Vegetation Transects and Plot Sampling

Vegetation monitoring was performed in accordance with previously established approved methodology. Forty (40) vegetation transects located in Mitigation Areas 3.5 and 3.6 were quantitatively sampled. Each transect consists of several vegetation plots located at varying line distances along the centerline. Estimates of percent cover of plant species were made within each of the plots. Most of the transects consist of 5 plots permanently installed from upland to wetland, however, there is some variation in the number of plots in some of the transects.

Each transect traverses a hydrological gradient beginning with upland pine flatwoods and ultimately ending within wetland systems, most often a cypress dome. Within the hydrological gradient, five (5) distinct vegetation zones were identified:

1. Pine flatwoods (upland plot)
2. Upper *Aristida-Rhynchospora* zone
3. Lower *Aristida-Rhynchospora* zone
4. *Eriocaulon* zone
5. *Rhynchospora*-open water zone or cypress dome

Plots were assigned numbers along each transect in reference to the above 5 vegetation communities. Thus, all plots labeled as "1" were located within the pine flatwoods zone. Occasionally, plots were duplicated on some transects in order to replicate samples within a given community type. In such instances, plots were numbered using an "a" and "b" suffix to identify each replicate.

Each plot was located in the field by using topographic survey cross-sections provided by OUC (see Appendix C for cross section surveys of each transect). At least one corner of each plot had been previously established along the centerline of the transect and marked with a piece of iron reinforcement bar driven into the ground. By using the provided survey information along with the corner marker, the remaining corners were located and marked, the plot delineated, and vegetation monitoring performed.

All plots located in pine flatwood areas (identified as “1” plots), consisted of a 10 meter X 10 meter (100 m²) square. Within each “1” plot, percent cover of each of the dominant five plant species (based on areal cover) was recorded. In addition, percent cover of bare ground and water were also estimated. The “1” plots were the largest plots monitored at each transect and, as a result, only the top 5 dominant species were recorded.

A slightly different approach was used to assess the “2” through “5” plots. Plots established in vegetation zones 2 through 5 generally consisted of 2 meter X 2 meter (4 m²) square plots. In some instances, rectangular plots (1 meter X 4 meters) were established. Regardless of footprint, within each of these 4 m² plots, percent cover of all plant species was estimated.

Bare ground and water were again recorded. Estimation of bare ground within each plot provides an additional measure of vegetative cover. Bare ground is a normal component of mature ecosystems, particularly wetlands, and can give some indication as to the stability of the developing community. It is not uncommon for bare ground to exceed 50% in mature forested wetland systems where dense canopy cover precludes the development of an extensive herbaceous community. In addition, percent cover estimates for water within each plot provides an added means of assessing changes in wetland hydrology across the monitored area. Both bare ground and water are important parameters on the Stanton Energy Center mitigation areas and serve to strengthen the validity of the results for the vegetation monitoring effort.

The United States Fish and Wildlife Service wetland indicator status (Reed, 1988) was used to classify each species as either upland, wetland, or neither. The USFWS wetland classification categories are as follows:

- **Obligate Wetland (OBL):** Occur almost always (estimated probability >99%) under natural conditions in wetlands.
- **Facultative Wetland (FACW):** Usually occur in wetlands (estimated probability 67%-99%) but occasionally found in non-wetlands.
- **Facultative (FAC):** Equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).
- **Facultative Upland (FACU):** Usually occur in non-wetlands (estimated probability 67%-99%) but occasionally found in wetlands (estimated probability 1%-33%).
- **Obligate Upland (UPL):** Occur in wetlands in another region but occur almost always (estimated probability >99%) under natural conditions in non-wetlands in the region specified. If a species does not occur in wetlands in any region, it is not on the National List.

Species listed as FACU (Facultative Upland) or UPL (Obligate Upland) were considered upland while species listed as either FACW (Facultative Wetland) or OBL (Obligate Wetland) were considered wetland. Those listed as FAC (Facultative) or not identified to the species level (unless all species of a given genus were listed as wetland indicators) were not classified and did not enter into calculations made for the upland and wetland groups as a whole. *Sphagnum* moss, a common component of a number of plots, is simply listed as “aquatic” in order to be consistent with previous contractors. According to the previous contractor (PBS&J, 1996), all but one species of *Sphagnum* are considered aquatic. Thus, *Sphagnum* was considered as a wetland species for the purposes of the group analyses. Species not listed (NL) in the USFWS National List were considered upland by the previous contractor. Beginning with the November 1997 monitoring event, it was decided to consider NL species as neither wetland nor upland since some of these taxa are wetland indicators in Florida (under the FDEP classification system), others are facultative, and others are upland. For example, *Rhynchospora pleiantha* (coastal beaksedge), is not listed in Reed (1988) but is listed as FACW under the FDEP system. Therefore, to broadly apply an “upland” classification to all “not listed” species would be incorrect. Recent nomenclatural changes in plant taxonomy along with an expanded database of range of occurrence in the past 10 years have resulted in a more comprehensive body of knowledge regarding hydrologic requirements of individual species. As a final comment on this point, it is noted in Reed (1988) that “...the wetland indicator categories should not be equated to degrees of wetness.”

2.2.2 Pine and Pond Cypress Tree Seedling Monitoring

Seedlings were sampled in April 2003. Seedlings were monitored utilizing randomly established circular plots. A stake was driven in the center of each plot and the perimeter of the circle was determined. The entire plot was surveyed for all seedlings. Each seedling was identified by species and determined to be alive or dead. All live trees were measured for height ($\pm 1/2'$) and its age and/or recruitment/planting class estimated, if possible (e.g. natural regeneration, 1994 planting, 1996 planting, etc.). The approximate location of each sampling plot is shown on the site maps in Appendix C.

The number and size of the sampling plots for each mitigation area is summarized in Table 2-1.

Table 2-1
Pine and cypress seedling sampling plot numbers and sizes by mitigation area.

Mitigation Area	Longleaf Pine Seedlings			Pond Cypress Seedlings			
	Number of Plots	Plot Size (acre)	Plot Radius (feet)	Number of Plots		Plot Size (acre)	Plot Radius (feet)
3.1	20	1/25	23.5	North	5	1/100	11.8
				South	6	1/40	18.6
3.2	20	1/25	23.5	16		1/25	23.5
3.3	30	1/20	26.3	-		-	-
3.5	50	1/40	18.6	-		-	-
3.6	12	1/50	16.7	10		1/25	23.5

In addition, within the cypress seedling sampling plots a crown measurement was taken on each tree. The crown measurement is the width of the canopy through the centerline of the tree [diameter (d)].

The crown measurements were used to calculate the area of the canopy for each tree by using the following equation:

$$\text{Tree canopy} = \pi(d/2)^2$$

The percent canopy cover was determined by calculating the sum of all of the tree canopy and dividing it by the total plot area.

A 1-meter square quadrat was also placed at the center of each sampling plot to collect vegetative data. The percent cover of all plant species within each quadrat was estimated.

2.2.3 Tree Sapling Monitoring Methodology

Saplings were sampled in March 2003. All saplings within the sapling planting areas in Mitigation Areas 3.1, 3.2, and 3.4 were sampled. Each sapling was identified by species and determined to be alive or dead. All live trees were measured for height ($\pm 1'$).

2.2.4 Photography

Panoramic, ground-level photographs using a high-quality digital camera were taken at all established panoramic photo station locations. Photo station locations are identified in Appendix C.

Color and infrared aerial photographs of the Stanton Energy Center were taken of the site on April 2 and 13, 2003, respectively.

2.2.5 Monitoring of Staff Gauges and Piezometers

Standing water levels at the staff gauges and within the piezometer wells were monitored monthly by OUC and supplied to URS Corporation. Data were available for the period of record beginning in late 1992 and extending through June 2003.

2.2.6 Rainfall Data

Rainfall data were collected by OUC and supplied to URS Corporation. Daily readings were summarized for both automatic and manual readings. Data were available for the period of record beginning in late 1992 and extending through August 2003. Three sets of linear regressions of rainfall data versus staff gauges as a function of total rainfall for the immediately preceding recording period, seven day period, and fifteen day period prior to the monthly reading of each staff gauge were performed. Manual rainfall data readings were utilized for the analyses due to missing gaps in the data of the automatic readings.

3.0 DATA ANALYSES

All field data for the seedling and sapling planting areas was collected in April 2003. The data for the vegetative plots within Mitigation Areas 3.5 & 3.6 was collected in October 2003. Below is a discussion of the results of the data collected for each mitigation area.

3.1 Tree Data (Seedling and Sapling)

Table 3-1 summarizes all of the tree data collected at the Stanton Energy Center in 2003. Table 3-2 summarizes the tree data collected at the Stanton Energy Center from 1994 to 2003. Detailed tables with the pine and cypress seedling plot data are included in Appendix D.

3.1.1 Mitigation Area 3.1

Mitigation Area 3.1 includes pond cypress seedling, longleaf pine seedling, and longleaf pine sapling plantings. See Appendix E for panoramic photographs of Mitigation Area 3.1.

There are two cypress seedling planting areas in Mitigation Area 3.1 which were planted with 10-12 inch containerized seedlings at 400 trees per acre. The northern cypress seedling planting area is 0.4 acres in size. During the 2003 monitoring event, 7 pond cypress were counted in the sampling plots, resulting in a tree density of 140 trees per acre. The average height of the pond cypress was 12.4 feet (Table 3-1). Canopy estimates from crown measurements within the sampling plots indicate that there is 5% canopy cover within the cypress seedling planting area. In addition, wetland species (Obligate and/or Facultative Wetland) were providing 17.0% cover and no nuisance/wetland species were observed.

The southern cypress seedling planting area is 1.8 acres in size. During the 2003 monitoring event, 64 pond cypress were counted in the sampling plots, resulting in a tree density of 427 trees per acre. The average height of the pond cypress was 3.2 feet (Table 3-1). Canopy estimates from crown measurements within the sampling plots indicate that there is 1% canopy cover within the cypress seedling planting area. In addition, wetland species (Obligate and/or Facultative Wetland) were providing 92.5% cover and no nuisance/wetland species were observed. In total, the cypress seedling areas have a tree density of 296 trees per acre which is consistent with the previous monitoring results (Table 3-2).

The 11.1 acre longleaf pine seedling planting area was planted at 500 trees per acre with 2 year old containerized seedlings. The site suffered a high mortality after the initial planting and a second planting occurred. During the 2003 monitoring event, 14 longleaf pines were counted in the sampling plots, resulting in a tree density of 18 trees per acre. The average height of the longleaf pines was 6.1 feet (Table 3-1). These results are consistent with the previous monitoring results (Table 3-2). Cogongrass (*Imperata cylindrica*) has become established and is covering much of this area.

Table 3-1
Summary of tree data collected in 2003 at the Curtis H. Stanton Energy Center, Orange County, Florida. Sapling data collected in March 2003 and seedling data collected in April 2003.

Mitigation Area	Habitat		Height			Percent Canopy Cover	Tree Counts	Density (trees per acre)	Percent Survival	Planting Number	Planting Density
			Minimum	Mean	Maximum						
3.1	Longleaf Pine Seedlings		3.0	6.1 ± 2.3	12.0	-	14	18 ± 12	4%	-	500
	Longleaf Pine Saplings		14.0	19.4 ± 1.3	28.0	-	13	-	8%	165	-
	Cypress Seedlings	Total	1.0	4.1 ± 3.1	18.0	2%	71	296 ± 167	74%	-	400
		North	9.0	12.4 ± 3.0	18.0	5%	7	140 ± 111	35%	-	400
		South	1.0	3.2 ± 1.3	6.0	1%	64	427 ± 283	>100%	-	400
3.2	Longleaf Pine Seedlings		0.5	2.3 ± 1.5	6.0	-	183	229 ± 95	46%	-	500
	Slash Pine Saplings	Total	10.0	31.8 ± 7.1	39.0	-	268	-	>100%	242	-
		North	10.0	31.4 ± 4.8	37.0	-	136	-	>100%	132	-
		South	10.0	32.2 ± 8.9	39.0	-	132	-	>100%	110	-
	Cypress Seedlings		1.0	7.2 ± 3.8	16.0	10%	232	363 ± 132	91%	-	400
	Cypress Saplings		-	-	-	-	0	-	0%	40	-
3.3	Longleaf Pine Seedlings		1.0	3.3 ± 2.2	8.0	-	159	106 ± 49	35%	-	300
3.4	Longleaf Pine Saplings		10.0	19.2 ± 4.9	32.0	-	377	-	57%	662	-
3.5	Longleaf Pine Seedlings		1.0	2.3 ± 1.9	8.0	-	203	162 ± 39	32%	-	500
3.6	Longleaf Pine Seedlings		1.0	4.3 ± 2.6	8.0	-	51	213 ± 99	43%	-	500
	Cypress Seedlings		1.0	3.9 ± 1.3	7.0	2%	164	410 ± 84	>100%	-	400

Table 3-2

Annual summary of tree density and mean percent survival of trees within the seedling and sapling planting areas at the Curtis H. Stanton Energy Center, Orange County, Florida.

Mitigation Area	Sampling Year	Seedlings				Saplings	
		Longleaf Pine		Pond Cypress		Longleaf Pine	Pond Cypress
		Tree Density	Percent Survival	Tree Density	Percent Survival	Percent Survival	Percent Survival
3.1	1994	0	0%	296	74%	10%	-
	1995	0	0%	324	81%	9%	-
	1996	0	0%	192	48%	86%	-
	1997	55	11%	268	67%	94%	-
	1998	47	9%	251	63%	94%	-
	1999	28	6%	272	68%	92%	-
	2003	18	4%	296	74%	8%	-
3.2	1994	139	28%	80	20%	89%	>100%
	1995	83	17%	192	48%	88%	>100%
	1996	233	47%	208	52%	95%	99%
	1997	255	51%	272	68%	99%	99%
	1998	229	46%	257	64%	98%	98%
	1999	210	42%	265	66%	98%	83%
	2003	229	46%	363	91%	>100%	0%
3.3	1994	22	7%	-	-	-	-
	1995	15	5%	-	-	-	-
	1996	15	5%	-	-	-	-
	1997	345	>100%	-	-	-	-
	1998	166	55%	-	-	-	-
	1999	87	29%	-	-	-	-
	2003	106	35%	-	-	-	-
3.4	1996	-	-	-	-	-	84%
	1997	-	-	-	-	-	80%
	1998	-	-	-	-	-	60%
	1999	-	-	-	-	-	73%
	2003	-	-	-	-	-	57%
3.5	1994	90	18%	-	-	-	-
	1995	80	16%	-	-	-	-
	1996	100	20%	-	-	-	-
	1997	520	104%	-	-	-	-
	1998	380	76%	-	-	-	-
	1999	341	68%	-	-	-	-
	2003	162	32%	-	-	-	-
3.6	1994	90	18%	132	33%	-	-
	1995	45	9%	276	69%	-	-
	1996	175	35%	268	67%	-	-
	1997	310	62%	340	85%	-	-
	1998	248	50%	324	81%	-	-
	1999	203	41%	306	77%	-	-
	2003	213	43%	410	>100%	-	-

The 0.28 acre longleaf pine sapling planting area was planted at 700 trees per acre with 10-15 foot tall saplings. The site suffered a high mortality after the initial planting and a second planting of 165 sapling trees occurred. During the 2003 monitoring event, 13 longleaf pines were counted, resulting in an 8% survival rate. The average height of the longleaf pines was 19.4 feet (Table 3-1). These results are significantly lower than previous monitoring results (Table 3-2). After the monitoring, most of longleaf pine planting area was removed for the installation of a natural gas pipeline. OUC will be negotiating with the regulatory agencies to determine adequate replacement of this planting area.

3.1.2 Mitigation Area 3.2

Mitigation Area 3.2 includes pond cypress seedling, longleaf pine seedling, cypress sapling, and longleaf pine sapling plantings. See Appendix E for panoramic photographs of Mitigation Area 3.2.

The 8.0 acre pond cypress seedling planting area was planted with 10-12 inch seedlings in 4 inch cones at 400 trees per acre. During the 2003 monitoring event, 232 pond cypress were counted in the sampling plots, resulting in a tree density of 363 trees per acre. The average height of the pond cypress was 7.2 feet (Table 3-1). These results are greater than those observed during the previous monitoring results (Table 3-2). Canopy estimates from crown measurements within the sampling plots indicate that there is 10% canopy cover within the cypress seedling planting area. In addition, wetland species (Obligate and/or Facultative Wetland) were providing 64.7% cover and no nuisance/wetland species were observed.

The 11.7 acre longleaf pine seedling planting area was planted at 500 trees per acre with 2 year old containerized seedlings. The site suffered a high mortality after the initial planting and a second planting occurred. During the 2003 monitoring event, 183 longleaf pines were counted in the sampling plots, resulting in a tree density of 229 trees per acre. The average height of the longleaf pines was 2.3 feet (Table 3-1). These results are consistent with the previous monitoring results (Table 3-2).

There are two slash pine sapling planting areas in Mitigation Area 3.2. The 0.2 acre slash pine sapling planting area between the railroad grades was planted with three rows of 10-15 foot tall pine trees, 132 total trees. In addition, a single row of slash pine trees 10-15 feet tall, 110 total trees, was planted along 663 feet of the wetland edge in the southern portion of Mitigation Area 3.2. During the 2003 monitoring event, 136 pines were counted in the northern planting area and 132 pine trees were counted in the southern planting area, resulting in a greater than 100% survival rate for both planting areas. The average height of the pines was 31.4 feet and 32.2 feet, respectively (Table 3-1). In total, the slash pine sapling planting areas have a survival of >100%, which is consistent with the previous monitoring results (Table 3-2).

The 0.2 acre cypress sapling planting area between the railroad grades was planted with two rows of 10-15 foot tall pine trees, 40 total trees. During the 2003 monitoring event, no cypress were counted (Table 3-1). These results are significantly lower than previous monitoring results (Table 3-2).

3.1.3 Mitigation Area 3.3

Mitigation Area 3.3 includes 15.6 acres of longleaf pine seedling plantings. See Appendix E for panoramic photographs of Mitigation Area 3.3. The longleaf pine seedlings were planted at 300 trees per acre with 2 year old containerized seedlings. The site suffered a high mortality after the initial planting and a second planting occurred. During the 2003 monitoring event, 159 longleaf pines were counted in the sampling plots, resulting in a tree density of 106 trees per acre. The average height of the longleaf pines was 3.3 feet (Table 3-1). These results are consistent with the previous monitoring results (Table 3-2).

3.1.4 Mitigation Area 3.4

Mitigation Area 3.4 includes 1.4 acres of longleaf pine sapling plantings. The longleaf pine saplings were planted in clusters within the transmission line corridor. In total, 662 longleaf pine saplings, 3.5-8 feet tall were planted. The site suffered a high mortality after the initial planting and a second planting occurred. During the 2003 monitoring event, 377 longleaf pines were counted in the sampling plots, resulting in a 57% survival rate. The average height of the longleaf pines was 19.2 feet (Table 3-1). These results represent a slight decrease in survival from the previous monitoring results (Table 3-2). After the monitoring, most of longleaf pine trees were removed because of interference with the power lines. OUC will be negotiating with the regulatory agencies to determine adequate replacement of this planting area.

3.1.5 Mitigation Area 3.5

Mitigation Area 3.5 includes 30.7 acres of longleaf pine seedling plantings. See Appendix E for panoramic photographs of Mitigation Area 3.5. The longleaf pine seedlings were planted at 500 trees per acre with 2 year old containerized seedlings. The site suffered a high mortality after the initial planting and a second planting occurred. During the 2003 monitoring event, 203 longleaf pines were counted in the sampling plots, resulting in a tree density of 162 trees per acre. The average height of the longleaf pines was 2.3 feet (Table 3-1). These results are significantly lower than previous monitoring results (Table 3-2). The lower tree density of longleaf pines could be the result of die off due to drought conditions experienced after the last monitoring event.

3.1.6 Mitigation Area 3.6

Mitigation Area 3.6 includes pond cypress seedling and longleaf pine seedling plantings. See Appendix E for panoramic photographs of Mitigation Area 3.6.

The 4.99 acre pond cypress seedling planting area was planted with 10-12 inch seedlings in 4 inch cones at 400 trees per acre. During the 2003 monitoring event, 164 pond cypress were counted in the sampling plots, resulting in a tree density of 410 trees per acre. The average height of the pond cypress was 3.9 feet (Table 3-1). Canopy estimates from crown measurements within the sampling plots indicate that there is 2% canopy cover within the cypress seedling planting area. These results are slightly higher than those observed during the previous monitoring events (Table 3-2). In addition, wetland species (Obligate and/or Facultative Wetland) were providing 56.0% cover and no nuisance/wetland species were observed.

The 3.4 acres of longleaf pine seedling plantings. The longleaf pine seedlings were planted at 500 trees per acre with 2 year old containerized seedlings. The site suffered a high mortality after the initial planting and a second planting occurred. During the 2003 monitoring event, 51 longleaf pines were counted in the sampling plots, resulting in a tree density of 213 trees per acre. The average height of the longleaf pines was 4.3 feet (Table 3-1). These results are consistent with the previous monitoring results (Table 3-2).

3.2 Vegetation Plot Sampling Data

The Stanton Energy Center's Mitigation Areas 3.5 and 3.6 consist of wet pine flatwoods which naturally grade through a herbaceous fringe of transitional wetland vegetation into either a forested wetland system or shallow marsh. While there is some variation across the two areas, a typical cross-section of plant communities on the sites would begin with a saw palmetto/wiregrass/longleaf pine dominated upland pine flatwoods in which varying degrees of standing water are often present and a high diversity of herbaceous species are intermixed. Wet pine flatwoods are among the most vegetatively diverse ecosystems in Florida due, in large part, to factors such as differences in microtopography, variations in soil type, and other physical effects such as fire frequency.

The wet flatwoods give way to a lower elevation transitional herbaceous fringe which is found as a wet border around the cypress swamps and lower elevation marshes on the sites. The transitional fringe is fairly diverse due to the changing hydrology on the sites as result of ditch blocking activities and variations in seasonal rainfall. Typically, this band is dominated a mixture of upland and wetland species depending on the time of year and degree of inundation.

Two distinct vegetative zones within the transitional fringe were identified prior to the onset of monitoring activities. A higher elevation zone, noted as zone 2, was described as the "upper *Aristida-Rhynchospora* zone" in reference to the commonly observed mixture of wiregrass and any of a number of *Rhynchospora* (beakrush or beaksedge) species including *R. cephalantha* (clustered beakrush), *R. ciliaris* (ciliate beakrush), and *R. fascicularis* (fasciculate beakrush).

Lying at a slightly lower elevation, and typically closer to the forested wetland or marsh, is zone 3, designated as the "lower *Aristida-Rhynchospora* zone". This vegetative community differs somewhat from zone 2 in that the wiregrass present is typically reduced in coverage and different species of *Rhynchospora* are found. These include species tolerant of inundation such as *R. chapmannii* (Chapman's beakrush) and *R. inundata* (narrowfruit horned beaksedge). Due to the ditch blocking activities and seasonal rainfall at both mitigation areas, the vegetative composition of both zones 2 and 3 is continually changing such that, at any given #2 or #3 plot, characteristics of both the upper and lower *Aristida-Rhynchospora* zone can be observed.

Lying elevationally below zone 3 is the "*Eriocaulon* zone" which has been designated as zone 4. This zone is typically dominated by aquatic species including *Eriocaulon decangulare* (pipewort), *Aristida palustris* (longleaf threeawn), *Hypericum fasciculatum* (sandweed), and narrowfruit horned beaksedge, to name a few. *Aristida palustris* is an obligate species under both the USFWS (Reed, 1988) and FDEP classifications and, as a result, is an important species on the two mitigation areas. It is often found growing in large stands along the fringes and within the deeper portions of the

cypress swamps on sites 3.5 and 3.6. Prior to the November 1997 monitoring event, *Aristida palustris* had not been identified to species by the previous contractors and thus did not contribute to either wetland or upland percentages.

Lying at the lowest elevations on both mitigation areas, zone 5 is described as either the “open water-*Rhynchospora* zone” or simply “cypress dome”. These areas are typically inundated and are dominated by wetland species, particularly obligate taxa which comprise the character of the cypress dome or marsh. The open water-*Rhynchospora* zone is often dominated by narrowfruit horned beaksedge (*Rhynchospora inundata*) and swampforest beaksedge (*R. decurrens*), both of which are indicative of emergent marsh. A number of additional species are found in this community including pipewort (*Eriocaulon decangulare*), netted nutrush (*Scleria reticularis*), maidencane (*Panicum hemitomon*), and branching hedgehyssop (*Gratiola ramosa*), to name a few. This open water-*Rhynchospora* zone is less common than the “cypress dome” community.

The cypress domes are typically dominated by a pond cypress canopy with a shrub layer understory often dominated by wax myrtle (*Myrica cerifera*) and fetterbush (*Lyonia lucida*). Important components of the herbaceous stratum often include swamp fern (*Blechnum serrulatum*), saw-grass (*Cladium jamaicense*), warty sedge (*Carex verrucosa*), wooly panic grass (*Dichanthelium scabriusculum*), and Virginia chain fern (*Woodwardia virginica*).

It should be noted at this point that the above vegetative characterizations of typical plots over Mitigation Areas 3.5 and 3.6 are broad generalizations. The vegetative character of both sites varies greatly, although there are some consistent features. A comprehensive species list of all vegetation species encountered during October 2003 on Mitigation Areas 3.5 and 3.6 is presented in Table 3-3. Included in Table 3-3 are the scientific name, common name (if applicable), USFWS status, and FDEP status. All plant names are in accordance with the most recent authorities for a given taxa.

Ditches in the drainage basins of Mitigation Areas 3.5 and 3.6 were filled in an effort to restore historic runoff patterns and to increase wetland vegetation coverage in the upper reaches of each of these basins. In order to monitor the anticipated increases in hydroperiod and percent cover of wetland vegetation, several staff gauges and piezometer wells along with permanent vegetation transects were established in each wetland unit. As described in the methods section (Chapter 2), vegetation transects were monitored annually using five fixed plots situated at varying intervals along the centerline of the transect. Plot #1 was the most upland and contain the fewest wetland species. Each subsequent plot should have more wetland species than the previous plot and would be in slightly deeper water. This should result in progressively more wetland species at the higher numbered plots. With the filling of the ditches, it was anticipated that plots #2 and #3 would be subjected to the greater increase in wetland species coverage compared to the upland (plot #1) or the deeper wetland plots (#4 and #5).

The ditches in Mitigation Areas 3.5 and 3.6 were initially filled during January and February 1994. Fill for Mitigation Area 3.6 remained in the ditch as planned and helped to retain water longer causing an increased hydroperiod. Mitigation Area 3.5 experienced heavy erosion of the fill during the 1994 summer rainy season. Subsequently, a reinforced berm was constructed at the north end of Mitigation Area 3.5 during June 1995, prior to the summer rainy season. This reinforced berm has remained stable since then and has increased water retention in the upper reaches of the basin.

Table 3-3
Species encountered during vegetative plot sampling in Mitigation Areas 3.5 and 3.6 during
the 2003 monitoring event at the Curtis H. Stanton Energy Center, Orange County,
Florida.

Scientific Name	Common Name	Classification	
		USFWS	FDEP
<i>Acer rubrum</i>	Red maple	FAC	FACW
<i>Agalinus linifolia</i>	Flax-leaf false-foxglove	FACW	OBL
<i>Aletris lutea</i>	Yellow colic-root	FACW+	FAC
<i>Amphicarpum muhlenbergianum</i>	Blue maidencane	FACW	FACW
<i>Andropogon glomeratus</i>	Bushy bluestem	FACW+	FACW
<i>Andropogon virginicus</i>	Broomsedge	FAC-	FAC
<i>Aristida affinis</i>	Long-leaf threeawn grass	OBL	OBL
<i>Aristida beyrichiana</i>	Wiregrass	FAC-	FAC
<i>Aristida spiciformis</i>	Bottlebrush three-awn	FAC	FAC
<i>Aster reticulatus</i>	White-top aster	FAC	UPL
<i>Baccharis halimifolia</i>	Sea myrtle	FAC	FAC
<i>Bacopa monieri</i>	Coastal water-hyssop	OBL	OBL
<i>Bigelovia nudata</i>	Rayless goldenrod	FACW	FACW
<i>Blechnum serrulatum</i>	Swamp fern	FACW+	FACW
<i>Carex atlantica</i>	Prickly bog sedge	OBL	OBL
<i>Carphephorus carnosus</i>	Bald-headed carphephorus	FACW+	FACW
<i>Centella asiatica</i>	Coinwort	FACW	FACW
<i>Chaptalia tomentosa</i>	Pineland daisy	FACW	FACW
<i>Cirsium</i> spp.	Thistle	-	-
<i>Cladium jamaicensis</i>	Saw-grass	OBL	OBL
<i>Coreopsis floridana</i>	Florida tickseed	OBL	FACW
<i>Cyperus polystachyos</i>	Manyspike flatsedge	FACW	FACW
<i>Dichanthelium dichotomum</i>	Cypress witchgrass	FAC	FACW
<i>Dichanthelium scabriusculum</i>	Wooly panic grass	OBL	OBL
<i>Dichromena colorata</i>	Starbrush white-top-sedge	FACW	OBL
<i>Drosera brevifolia</i>	Dwarf sundew	OBL	FACW
<i>Echinochloa crusgalli</i>	Barnyard grass	FACW-	FACW
<i>Eleocharis interstincta</i>	Knotted spikerush	OBL	OBL
<i>Eriocaulon decangulare</i>	Tenangle pipewort	OBL	OBL
<i>Eupatorium rotundifolium</i>	False hoarhound	FAC	FAC
<i>Euthamia minor</i>	Slender flagrant golden-rod	FAC	FAC
<i>Fuirina scirpoidea</i>	Southern umbrella-sedge	OBL	OBL
<i>Galactia elliottii</i>	Elliott's milkpea	FACU	-
<i>Helianthus heterophyllus</i>	Wetland sunflower	OBL	FACW
<i>Hydrochloa carolinensis</i>	Common watergrass	OBL	OBL
<i>Hydrocotyle umbellata</i>	Manyflower marshpennywort	OBL	FACW
<i>Hypericum cistifolium</i>	Round-pod St. John's-wort	FACW	FACW
<i>Hypericum fasciculatum</i>	Sandweed	FACW+	OBL
<i>Hypericum galliodes</i>	Bedstraw St. John's-wort	OBL	FACW
<i>Hypericum tetrapetalum</i>	Heart-leaved St. Peter's-wort	FACW	FAC

Table 3-3 (Continued)

Species encountered during vegetative plot sampling in Mitigation Areas 3.5 and 3.6 during the 2003 monitoring event at the Curtis H. Stanton Energy Center, Orange County, Florida.

Scientific Name	Common Name	Classification	
		USFWS	FDEP
<i>Ilex cassine</i>	Dahoon holly	FACW	OBL
<i>Ilex glabra</i>	Gallberry	FACW	UPL
<i>Iris hexagona</i>	Prairie iris	OBL	OBL
<i>Juncus effusus</i>	Soft rush	FACW+	OBL
<i>Lachnanthes caroliniana</i>	Bloodroot	OBL	FAC
<i>Lachnocaulon anceps</i>	Bog-buttons	OBL	FACW
<i>Lobelia brevifolia</i>	Short-leaf lobelia	FAC+	FACW
<i>Ludwigia linearis</i>	Narrowleaf primrose willow	OBL	OBL
<i>Ludwigia repens</i>	Creeping seedbox	OBL	OBL
<i>Ludwigia suffruticosa</i>	Shrubby seedbox	OBL	FACW
<i>Lycopodium alopecuroides</i>	Club-moss foxtail	OBL	FACW
<i>Lycopus rubellus</i>	Water hoarhound	OBL	OBL
<i>Lygodium japonicum</i>	Japanese climbing fern	FAC	-
<i>Lyonia lucida</i>	Fetterbush	FACW	FACW
<i>Mikania scandens</i>	Climbing hempvine	FACW+	-
<i>Myrica cerifera</i>	Wax myrtle	FAC+	FAC
<i>Myriophyllum aquaticum</i>	Parrot feather watermilfoil	OBL	OBL
<i>Nyssa sylvatica</i>	Swamp blackgum	OBL	OBL
<i>Osmunda cinnamomea</i>	Cinnamon fern	FACW+	FACW
<i>Osmunda regalis</i>	Royal fern	OBL	OBL
<i>Oxypolis filiformis</i>	Water dropwort	FACW+	OBL
<i>Panicum dichotomiflorum</i>	Fall panicum	FACW	FACW
<i>Panicum hemitomon</i>	Maidencane	OBL	OBL
<i>Panicum repens</i>	Torpedo grass	FACW-	FACW
<i>Panicum rigidulum</i>	Redtop panicum	FACW	FACW
<i>Panicum</i> spp.	Panicum	-	-
<i>Paspalum floridanum</i>	Florida paspalum	FACW-	FACW
<i>Paspalum</i> spp.	Paspalum	-	-
<i>Persea borbonia</i>	Red bay	FACW	FACW
<i>Phyllanthus urinaria</i>	Peewater leaf-flower	FAC	FAC
<i>Pinus elliotii</i>	Slash pine	FACW	UPL
<i>Pinus palustris</i>	Longleaf pine	FACU+	UPL
<i>Pluchea rosea</i>	Godfrey's marsh fleabane	FACW	FACW
<i>Polygala setacea</i>	Coastalplain milkwort	FAC+	FACW
<i>Polygonum hydropiperoides</i>	Swamp smartweed	OBL	OBL
<i>Pontederia cordata</i>	Pickernelweed	OBL	OBL
<i>Proserpinaca pectinata</i>	Comb-leaf mermaid-weed	OBL	OBL
<i>Pteridium aquilinum</i>	Bracken fern	FACU	-
<i>Pterocaulon virgatum</i>	Wandblackroot	FAC-	-
<i>Quercus nigra</i>	Water oak	FAC	FACW

Table 3-3 (Continued)

Species encountered during vegetative plot sampling in Mitigation Areas 3.5 and 3.6 during the 2003 monitoring event at the Curtis H. Stanton Energy Center, Orange County, Florida.

Scientific Name	Common Name	Classification	
		USFWS	FDEP
<i>Quercus virginiana</i>	Virginia live oak	FACU+	UPL
<i>Rhexia</i> spp.	Meadow-beauty	FACW+	FACW
<i>Rhynchospora corniculata</i>	Short-bristle beakrush	OBL	OBL
<i>Rhynchospora microcephala</i>	Capitate beakrush	OBL	OBL
<i>Rubus trivialis</i>	Southern dewberry	FAC	FAC
<i>Saccharum giganteum</i>	Sugarcane	FACW	-
<i>Sagittaria kurziana</i>	Spring-tape arrowhead	OBL	OBL
<i>Sarracenia minor</i>	Hooded pitcherplant	OBL	FACW
<i>Scleria reticularis</i>	Netted nutrush	OBL	FACW
<i>Scutellaria integrifolia</i>	Rough skullcap	FAC	FAC
<i>Serenoa repens</i>	Saw palmetto	FACU	UPL
<i>Setaria geniculata</i>	Knotroot foxtail	FAC	FAC
<i>Smilax laurifolia</i>	Common greenbrier	FACW+	-
<i>Solidago fistulosa</i>	Pinebarren goldenrod	FAC+	FACW
<i>Sorghastrum secundum</i>	Lopsided indiagrass	FACU-	UPL
<i>Spartina bakeri</i>	Sandcordgrass	FACW+	FACW
<i>Sphagnum cymbifolium</i>	Moss	Aquatic	OBL
<i>Taxodium ascendens</i>	Pond cypress	OBL	OBL
<i>Tillandsia</i> spp.	Airplant	-	-
<i>Toxicodendron radicans</i>	Poison ivy	FAC	-
<i>Utricularia purpurea</i>	Purple bladderwort	OBL	OBL
<i>Vaccinium arboreum</i>	Farkleberry	FACU	-
<i>Vaccinium corymbosum</i>	Highbush blueberry	FACW	FACW
<i>Viburnum obovatum</i>	Walter viburnum	FACW+	FACW
<i>Viola lanceolata</i>	Long-leaf violet	OBL	OBL
<i>Vitis rotundifolia</i>	Muscadine grape	FAC	-
<i>Woodwardia virginica</i>	Virginia chain fern	OBL	FACW
<i>Xyris caroliniana</i>	Carolina yelloweyed grass	FACW+	FACW
<i>Xyris platylepis</i>	Tall yelloweyed grass	OBL	OBL

3.2.1 Mitigation Area 3.5

During the 2003 monitoring, a total of 73 species were recorded within Mitigation Area 3.5. Using the USFWS classification system (Reed, 1988), 58 were listed as either Facultative Wetland (FACW) or Obligate Wetland (OBL), 5 as Facultative Upland (FACU) or Upland (UPL), and 10 as Facultative (FAC). Clearly, on a species richness basis, wetland taxa far outnumber upland taxa.

A more detailed examination of each monitored plot within Mitigation Area 3.5 is presented in Appendix F, Table F-1. Included in Table F-1 are raw percent cover data for each species encountered in each plot along with summary statistics which provide upland and wetland group characteristics.

As stated above, plot 1's are upland plots. For the wetland plots (2-5), 94% of the plots consisted of vegetative cover. The relative percent cover by wetland species within the wetland plots was 63%. This is a slight decrease from the previous monitoring event in 1999, but is significantly higher than the 41% from the 1994 monitoring event (See Figure 3-1). On average, wetland vegetation coverage between 1994 and 2003 increased. The greatest increase in wetland coverage occurred between 1995 and 1996, corresponding to the first above average year of rainfall (1996) following the completion of the ditch block at the north end of the drainage in the spring of 1995. The greater wetland coverage in 1996 may have also resulted from increased growth stimulated by a controlled burn conducted in the winter of 1995/1996. However, since 1996, wetland coverage has remained relatively stable, fluctuating between 59% and 68%.

The relative percent cover by wetland and upland species is presented by plot type in Figure 3-2. Examination of Figure 3-2 reveals that the mean relative percent cover of wetland species increases dramatically between the #3 and #4 plots. In addition, the mean percent cover of upland vegetation drops markedly after the #2 plots. Compared to the 1994 monitoring event (prior to construction of the berm), in 2003 81% of the plots 2-4 have a higher relative percent cover of wetland vegetation. This is slightly below the 1999 results which showed 98% of the Plots 2-4 had a higher relative percent cover of wetland vegetation. Also, during the 2003 monitoring event, upland species represented 14% relative percent cover within the monitoring plots. This is a significant decrease since the 1994 event when upland species represented 21% relative percent cover of the monitoring plots.

Regression analyses were performed on all data plot samples by year for each plot #1 through #5 for relative percent wetland cover for each respective unit. These values were calculated for each year from 1994 through 2003 for the individual plot numbers. Survey results from 1993 were excluded because no information was available for plots #1, #2, and #3. A prescribed burn was conducted prior to data collection and regrowth of vegetation had not occurred by the fall sampling period. Survey results for 1992 were also excluded because vegetation was classified according to existing FDEP criteria in 1992.

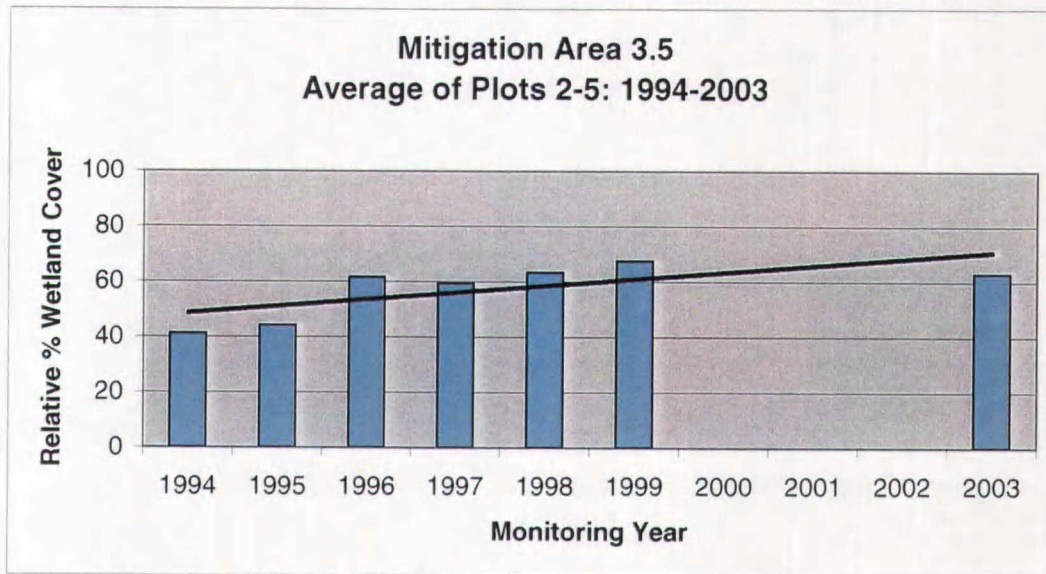


Figure 3-1: Mean relative percent cover of wetland vegetation for plots 2-5 for the 1994-2003 monitoring events at the Curtis H. Stanton Energy Center Mitigation Area 3.5

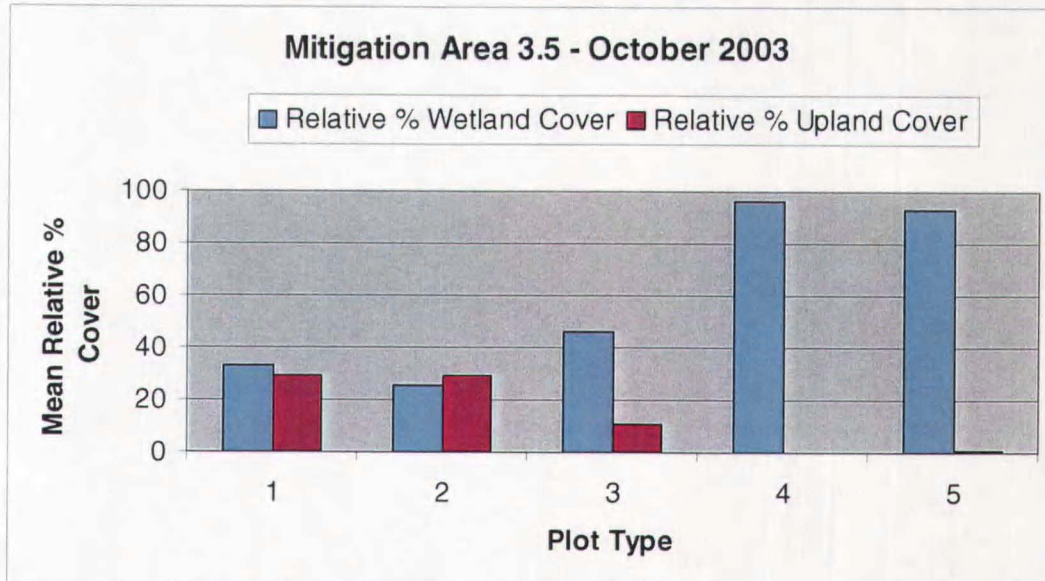


Figure 3-2: Mean relative percent cover of wetland versus upland species for the 2003 monitoring event at the Curtis H. Stanton Energy Center Mitigation Area 3.5

The means by plot type for each years relative percent cover of wetland vegetation for Mitigation Area 3.5 are provided in Appendix G, Figures G-1 through G-5. Means used to create each plot are presented in Table 3-4. As shown in these figures, there was a substantial increase in wetland coverage progressing from the upland areas in plot #1 to the more wetland habitats of plot #5. There was also an increase in relative wetland cover from 1994 through 2003 for each mitigation area for each plot sampled.

Table 3-4
Mean relative percent cover of wetland vegetation by plot type for the 1994-2003
monitoring events at the Curtis H. Stanton Energy Center Mitigation Area 3.5.

Plot No.	1994	1995	1996	1997	1998	1999	2003
1	10	27	13	14	15	21	33
2	15	27	34	26	31	34	26
3	21	29	55	38	46	50	46
4	50	54	72	87	87	93	96
5	79	67	85	86	89	93	93
Average for Plots 2-5	41	44	62	59	63	68	63

Regression lines for all plots have a positive slope (increasing relative percent cover of wetland vegetation) from 1994 to 2003. The regression statistics and analyses of variance are provided in Appendix G. The results of these analyses indicate that the slope of the regression line is significantly different ($p < 0.05$) from and greater than zero for plots 3 through 5. While plot 2 were significant in 1999, during the 2003 analysis, plot 2 was not significant ($p = 0.24$) but still demonstrated an increasing relative percent cover of wetland vegetation. The slopes of the various regression lines ranged from a minimum of 0.7 to a maximum of 5.5 for the #2 through #5 plots. In Mitigation Area 3.5, the greatest calculated slope occurred for the #4 plots. Thus, the ditch plugging activities have resulted in a significant increase in relative percent wetland cover for plots 2 through 5 as predicted in the 1992 JAMMP.

As seen in the analyses, some significant trends are no longer statistically significant and the slopes of the various regression lines are less than during previous monitoring years. This can be attributable to several factors, two of which are time and vegetative fluctuations. Almost immediately after the ditch blocking activities, the site experienced a change; coverage by wetland vegetation increased. However, in the next few years, the increase in percent cover of wetland vegetation slowed as the vegetative cover began to equilibrate with its new hydrologic regime. Therefore, as the years go by, the statistical analyses loose the significant trend as the slopes of the regression lines flatten.

Also, after the 1999 monitoring event, the site experienced a drought. Based on on-site rainfall data for the monitoring period (1993 to present) the site averaged 51.6 inches of rain per year (See Figure 3-3). This is slightly above the 48.35 inches of rain yearly average determined by the National Weather Service. For 2003, through August, the year to date rainfall total was 58 inches, therefore an above average year. In 2000, the year following the previous monitoring event, the site only received 31 inches of rain, approximately 20 inches below the 10 year average. In addition, from November 1999 to April 2001, the site experienced 18 months of below average monthly rainfall based on the

10 year average rainfall for each month (See Table 3-5). From November 1999 through May 2002, 25 of the 31 months saw below average rainfall. During these drought conditions, it would be expected that the edge plots (2&3) to experience a decrease in wetland species coverage and an increase in facultative and upland species coverage.

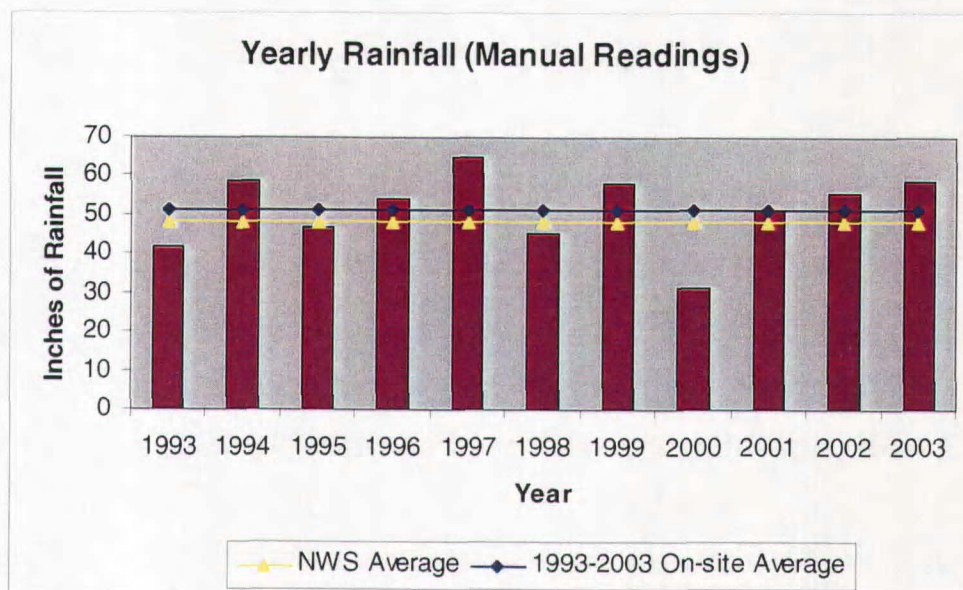


Figure 3-3: Annual rainfall data at the Curtis H. Stanton Energy Center.

Table 3-5
1993-2003 monthly rainfall totals from manual readings at the Curtis H. Stanton Energy Center Mitigation.

Month	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Monthly Average
January	5.20	4.15	0.24	6.54	1.74	2.07	2.29	1.00	1.30	2.15	4.58	2.84
February	1.93	3.67	0.61	1.68	1.97	7.65	0.61	0.69	0.45	3.89	1.82	2.27
March	3.17	1.51	0.94	8.68	2.61	4.69	1.58	1.13	1.44	1.52	10.13	3.40
April	0.93	2.97	1.75	3.55	4.33	0.45	3.76	1.28	2.07	1.47	2.67	2.29
May	0.21	2.12	2.55	3.25	4.13	2.54	4.84	0.19	4.65	2.42	7.46	3.12
June	6.46	6.15	7.55	7.45	9.45	2.88	9.95	5.62	6.81	9.78	7.09	7.20
July	3.72	4.36	11.38	2.23	9.33	6.23	4.68	5.90	8.39	8.69	7.07	6.54
August	4.34	10.37	8.57	10.15	6.36	7.48	6.93	4.22	10.67	8.58	17.81	8.68
September	6.76	11.12	5.55	3.05	3.49	8.36	11.21	5.97	9.92	4.04	-	6.95
November	6.16	2.45	5.93	4.88	3.26	0.36	7.00	2.93	2.66	2.09	-	3.77
December	1.07	6.20	1.32	0.53	5.07	2.28	2.68	1.08	1.87	2.90	-	2.50
Total	41.79	58.61	46.96	54.30	65.07	45.55	58.05	31.40	51.30	55.70	58.63	

With all of the changes occurring in Mitigation Area 3.5, nuisance vegetation has not been an issue. During mitigation planning, it was anticipated that the establishment of primrose willow (*Ludwigia peruviana*) and common cattail (*Typha latifolia*) and the spread of wax myrtle into the wetland areas would be the most likely problems. This has not happened. No primrose willow or common cattail

were found in any of the vegetative plots. Also, wax myrtle was found in only 9 of the 76 (12%) plots in Mitigation Area 3.5. The percent cover of wax myrtle only exceeded 10% in five plots and represents only 2% of the vegetative coverage in Mitigation Area 3.5.

3.2.2 Mitigation Area 3.6

During the 2003 monitoring, a total of 87 species were recorded within Mitigation Area 3.6. Using the USFWS classification system (Reed, 1988), 60 were listed as either Facultative Wetland (FACW) or Obligate Wetland (OBL), 7 as Facultative Upland (FACU) or Upland (UPL), and 20 as Facultative (FAC). Clearly, on a species richness basis, wetland taxa far outnumber upland taxa.

A more detailed examination of each monitored plot within Mitigation Area 3.6 is presented in Appendix F, Table F-2. Included in Table F-2 are raw percent cover data for each species encountered in each plot along with summary statistics which provide upland and wetland group characteristics.

As stated above, plot 1's are upland plots. For the wetland plots (2-5), 94% of the plots consisted of vegetative cover. The relative percent cover by wetland species within the wetland plots was 50%. This is a slight decrease from the previous monitoring event in 1999, but is significantly higher than the 43% from the 1994 monitoring event (See Figure 3-4). On average, wetland vegetation coverage between 1994 and 2003 increased. The greatest increase in wetland coverage occurred between 1995 and 1996, corresponding to the first above average year of rainfall (1996) following the completion of the ditch filling activities. The greater wetland coverage in 1996 may have also resulted from increased growth stimulated by a controlled burn conducted in the winter of 1995/1996. However, since 1996, wetland coverage has remained relatively stable, fluctuating between 50% and 67%.

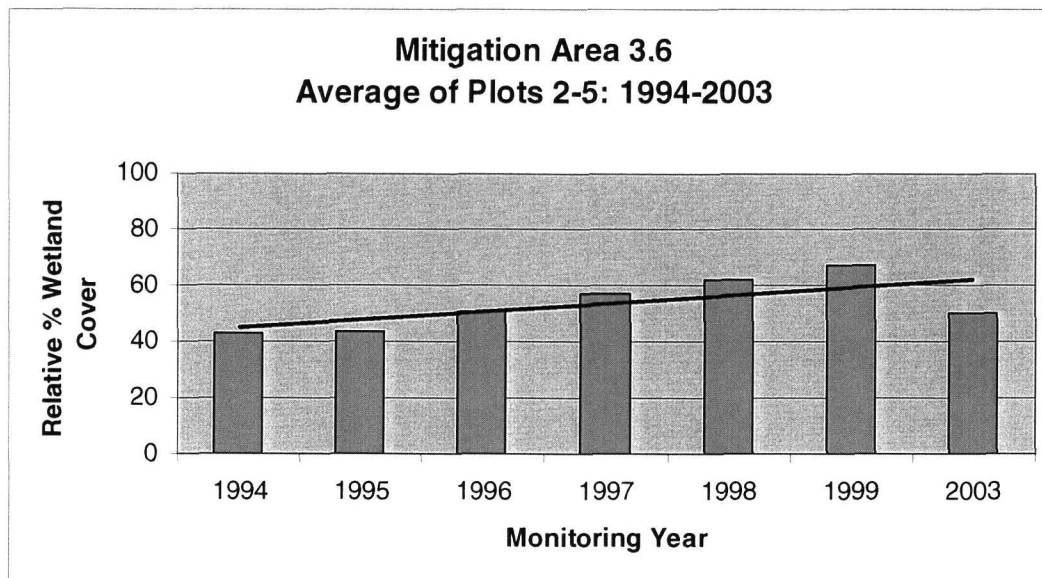


Figure 3-4: Mean relative percent cover of wetland vegetation for plots 2-5 for the 1994-2003 monitoring events at the Curtis H. Stanton Energy Center Mitigation Area 3.6

The relative percent cover by wetland and upland species is presented by plot type in Figure 3-5. Examination of Figure 3-4 reveals that the mean relative percent cover of wetland species increases dramatically between the #3 and #4 plots. In addition, the mean percent cover of upland vegetation drops markedly after the #3 plots. Compared to the 1994 monitoring event, in 2003 51% of the plots 2-4 have a higher relative percent cover of wetland vegetation. Also, during the 2003 monitoring event, upland species represented 14% relative percent cover within the monitoring plots. This is a significant decrease since the 1994 event when upland species represented 19% relative percent cover of the monitoring plots.

Regression analyses were performed on all data plot samples by year for each plot #1 through #5 for relative percent wetland cover for each respective unit. These values were calculated for each year from 1994 through 2003 for the individual plot numbers. Survey results from 1993 were excluded because no information was available for plots #1, #2, and #3. A prescribed burn was conducted prior to data collection and regrowth of vegetation had not occurred by the fall sampling period. Survey results for 1992 were also excluded because vegetation was classified according to existing FDEP criteria in 1992.

The means by plot type for each years relative percent cover of wetland vegetation for Mitigation Area 3.6 are provided in Appendix G Figures G-6 through G-10. Means used to create each plot are presented in Table 3-6. As shown in these figures, there was a substantial increase in wetland coverage progressing from the upland areas in plot #1 to the more wetland habitats of plot #5. There was also an increase in relative wetland cover from 1994 through 2003 for each mitigation area for each plot sampled.

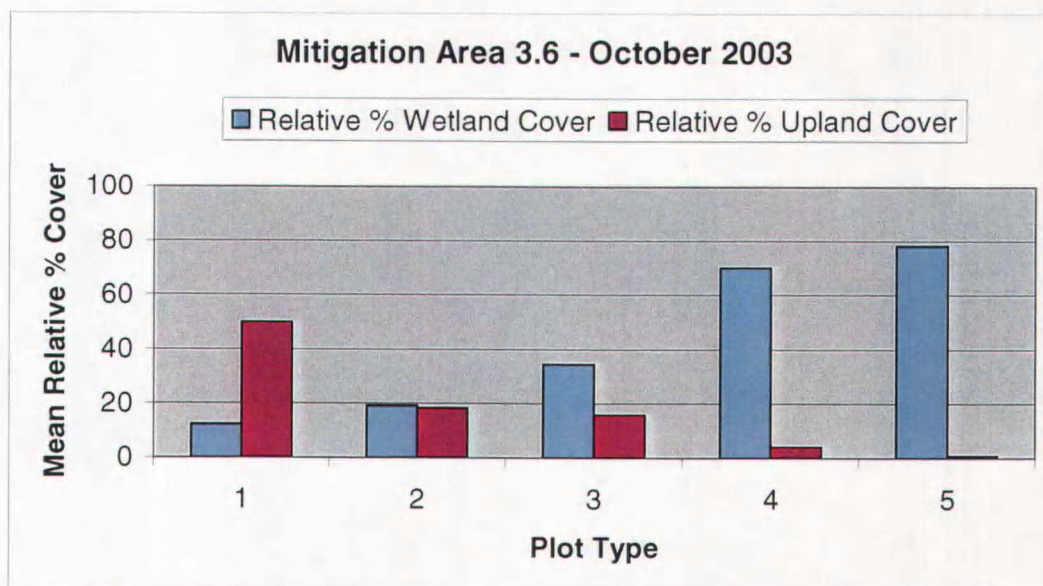


Figure 3-5: Mean relative percent cover of wetland versus upland species for the 2003 monitoring event at the Curtis H. Stanton Energy Center Mitigation Area 3.6

Regression lines for all plots have a positive slope (increasing relative percent cover of wetland vegetation) from 1994 to 2003. The regression statistics and analyses of variance are provided in Appendix G. The results of these analyses indicate that the slope of the regression line is significantly different ($p < 0.05$) from and greater than zero for plots 4 and 5. While plots 2 and 3 were significant in 1999, during the 2003 analysis, plot 2 ($p = 0.21$) and plot 3 ($p = 0.08$) were not significant but still demonstrated an increasing relative % cover of wetland vegetation. The slopes of the various regression lines ranged from a minimum of 0.6 to a maximum of 1.6 for the #2 through #5 plots. In Mitigation Area 3.6, the greatest calculated slope occurred for the #5 plots. Thus, the ditch plugging activities have resulted in a significant increase in relative percent wetland cover for plots 2 through 5 as predicted in the 1992 JAMMP.

Table 3-6
Mean relative percent cover of wetland vegetation by plot type for the 1994-2003 monitoring events at the Curtis H. Stanton Energy Center Mitigation Area 3.6.

Plot No.	1994	1995	1996	1997	1998	1999	2003
1	15	12	10	11	13	17	12
2	20	24	24	29	37	42	19
3	32	29	35	41	50	57	34
4	59	53	63	74	74	80	70
5	61	67	82	86	89	89	78
Average for Plots 2-5	43	43	51	58	63	67	50

As seen in the analyses, some significant trends are no longer statistically significant and the slopes of the various regression lines are less than during previous monitoring years. This can possibly be attributable to time and vegetative fluctuations, as described in above Section 3.2.1.

With all of the changes occurring in Mitigation Area 3.6, nuisance vegetation has not been an issue. During mitigation planning, it was anticipated that the establishment of primrose willow and common cattail and the spread of wax myrtle into the wetland areas would be the most likely problems. This has not happened. No primrose willow or common cattail were found in any of the vegetative plots. However, wax myrtle was found in 66 of the 129 (51%) plots in Mitigation Area 3.6. The percent cover of wax myrtle only exceeded 10% in 47 plots and represents only 8% of the vegetative coverage in Mitigation Area 3.6.

3.3 Rainfall, Staff Gauge, and Piezometer Analyses

As discussed in Section 3.2.1, based on on-site rainfall data for the monitoring period (1993 to present) the site averaged 51.6 inches of rain per year. In 2000, the site only received 31 inches of rain, approximately 20 inches below the 10 year average. In addition, from November 1999 to April 2001, the site experienced 18 months of below average monthly rainfall based on the 10 year average rainfall for each month. Also, from November 1999 through May 2002, 25 of the 31 months saw below average rainfall. However, in 2002 and 2003 the site received above average rainfall.

Based on the rainfall, staff gauge and piezometer data collected at the site, water levels in the wetland areas appear to be fluctuating with the rainfall. A complete listing of all the rainfall, staff gauge, and piezometer readings are provided in Appendix H. Table 3-7 and Table 3-8 summarize the results for each staff gauge and piezometer. Also included in Appendix H are figures plotting the staff gauge and piezometer pairs with the monthly rainfall. As seen in the figures, during the drought conditions of 2000 and 2001, piezometer and staff gauge readings were low and as rainfall increased in 2002 and 2003, staff gauge and piezometer water levels increased. The staff gauges and piezometers are tracking with the annual rainfall. Also based on the inundation and high ground water levels recorded, the wetlands clearly demonstrate wetland hydrology.

Table 3-7

Summary data for staff gauge readings at the Curtis H. Stanton Energy Center, 1992-2003.

Staff Gauge	Mean Value (feet)	Standard Deviation (Feet)1995	Maximum Value (feet)	% of Readings Indicating Standing Water
S1	0.46	0.44	2.61	66%
S2	0.29	0.33	1.65	56%
S3	0.03	0.07	0.52	27%
S4	0.35	0.31	0.94	66%
S11	0.08	0.13	0.46	36%
S8	0.14	0.22	0.90	41%
S9	0.21	0.28	1.21	58%
S7	0.20	0.26	1.00	43%
S5	0.86	0.69	1.84	72%
S5a	0.66	0.44	1.87	78%

Table 3-8

Summary data for piezometer readings at the Curtis H. Stanton Energy Center, 1992-2003.

Piezometer	Mean Value (feet)	Standard Deviation (Feet)1995	Maximum Value (feet)	% of Readings within 12 inches of Ground Surface
1	-1.53	1.03	-0.23	41%
2	-1.65	1.15	0.39	34%
3	-1.59	1.38	0.39	36%
4	-1.43	1.01	-0.03	46%
5	-1.65	1.20	0.04	35%
6	-1.42	1.08	0.12	41%
7	-1.93	1.02	0.58	16%

Regressions analyses were also performed between the staff gauge/piezometer pairs and rainfall totals for the immediately preceding recording period, seven day period, and fifteen day period prior to the monthly reading of the staff gauges and piezometers. The results of the regression analyses are presented in Appendix H. Forty seven of the fifty one analyses were significant ($p < 0.05$), showing that the staff gauge and piezometers readings were indicative of and fluctuate with the rainfall. Higher water readings corresponded with higher rainfall totals. The four analyses that were not significant, were very close with p values ranging from 0.06 to 0.15.

Mitigation Area 3.7 included 95 acres of hydrologic enhancement by way of installation of culverts and a weir to restore a more natural hydroperiod to the area. This area is monitored by two staff gauges and two piezometer wells. Analysis of the staff gauge and piezometer wells reveals that hydrologic conditions in Mitigation Area 3.7 have been restored to a more seasonally fluctuating hydroperiod. While 1993 was a below average rainfall year, based on the staff gauge and piezometer data, hydro periods were high, inconsistent with the rainfall. After installation of the culverts in 1994, staff gauge levels decreased and began fluctuating in accordance with the annual rainfall. By taking the total of each year's staff gauge and piezometer readings it give an indication of the amount and duration of inundation or high ground water. During rainy times with periods of inundation, the cumulative total of the annual staff gauge readings are higher that during drought conditions and short periods of or no inundation. This is demonstrated in Figures 3-6 and 3-7. In 1993, prior to installation of the culverts, despite low rainfall conditions, water levels were high within Mitigation area 3.7. After installation of the culverts, the staff gauge and piezometer readings fluctuate "more naturally" with the rainfall levels. Prior to the culvert installation in 1994 with below average rainfall, 69% of the Staff Gauge 8 and 9 readings indicated inundation. After installation of the culverts, the site has returned to a more normal seasonally fluctuating hydroperiod with 38% of Staff Gauge 8 and 57% of Staff Gauge 9 readings showing inundation. Water is no longer being artificially retained within Mitigation Area 3.7. The piezometer readings show the same pattern with 50% of the reading being within 12 inches of the surface prior to installation of the culverts 39% of Piezometer 6 and 11% of Piezometer 7 readings being within 12 inches of the surface after installation.

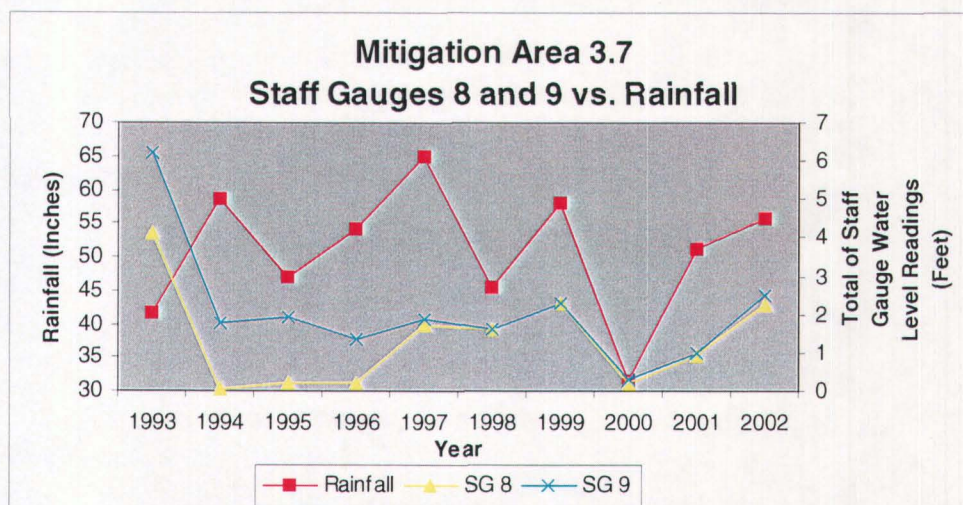


Figure 3-6: Annual cumulative totals of readings for Staff Gauges 8 and 9 versus rainfall at the Curtis H. Stanton Energy Center Mitigation Area 3.6

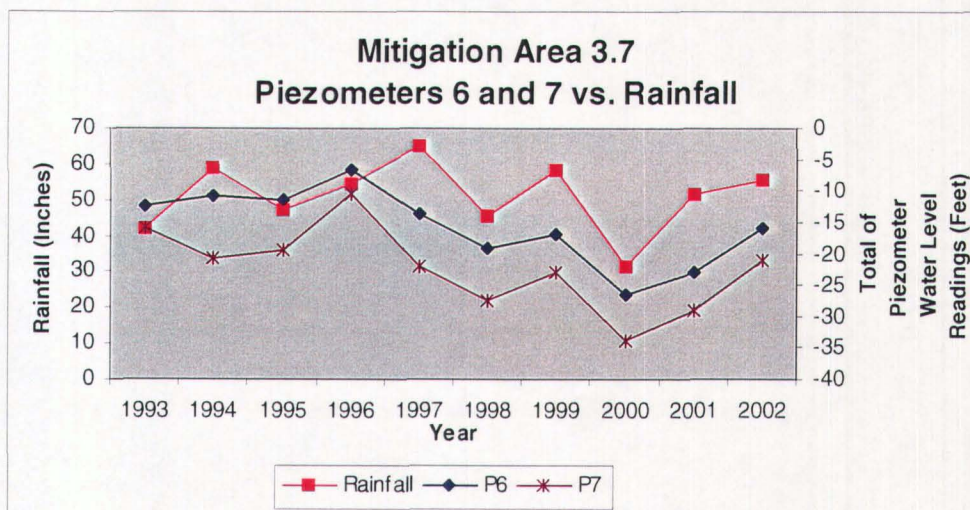


Figure 3-7: Annual cumulative totals of readings for Piezometers 6 and 7 versus rainfall at the Curtis H. Stanton Energy Center Mitigation Area 3.6

4.0 CONCLUSIONS

The JAMMP includes success criteria for each of the upland and wetland mitigation areas at the Stanton Energy Center. Monitoring of the mitigation areas is required to collect data and evaluate each mitigation area for success. Monitoring is required until each site has achieved the success criteria. When success is attained, no further monitoring will occur and the mitigation site will then be managed as part of the overall Stanton Energy Center management plan. The Success Criteria are provided in Appendix I. These criteria state that if success is not being achieved after Year 5, the mitigation methods of the site should be reassessed and monitoring continued. This monitoring event represents the monitoring results of Year 10.

Tree data was collected in April 2003 and vegetative plot data within Mitigation Areas 3.5 & 3.6. The collected data was analyzed and discussed in the previous section. Table 4-1 lists the results of the 2003 monitoring with respect to the success criteria.

4.1 Mitigation Area 3.1

Mitigation Area 3.1 includes pond cypress seedling, longleaf pine seedling, and longleaf pine sapling plantings. There are five success requirements for the pond cypress seedling planting areas. The southern planting area of pond cypress seedlings is meeting all five of the success criteria. It has a density greater than 400 wetlands trees/acre (428 trees per acre); greater than 80% cover in the herbaceous and subcanopy strata are USFWS listed as Facultative wet or Obligate (92.5%); cover by nuisance, non-wetland and exotic species is less than 10% (0%); the area is jurisdictional (based on a qualitative assessment by an environmental scientist experienced in performing wetland jurisdictional determinations); and the site was constructed in accordance with the approved plans. *The southern planting area of pond cypress seedlings in Mitigation Area 3.1 is meeting all five of the success criteria and should be released from further monitoring.*

However, the northern pond cypress seedling planting area is meeting only 2 of the 5 success criteria: cover by nuisance, non-wetland and exotic species is less than 10% (0%) and the site was constructed in accordance with the approved plans. The site has experienced significant mortality of trees, significant coverage by facultative and upland vegetation, and a lack of wetland hydrology. Relative to the hydrologic conditions, ground elevations appear to be high to support a cypress wetland. *Because the northern pond cypress seedling planting area has not achieved the success criteria, the mitigation methods in this area should be reassessed.*

The longleaf pine seedling planting area has a success criterion of a density of 300 trees per acre. During the 2003 monitoring event, the longleaf pine seedling planting area only had a density of 18 trees per acre. In addition, cogongrass has become established and is covering much of this area. These results are consistent with the previous monitoring results for this area. *The longleaf pine seedling planting area is not meeting the success criterion and the mitigation methods in this area should be reassessed.*

The longleaf pine sapling planting area has a success criterion of the same number of trees being present as were planted. During the 2003 monitoring event, only 13 longleaf pines were counted while 165 were planted. *The longleaf pine sapling planting area is not meeting the success criterion*

and the mitigation methods in this area should be reassessed. After the monitoring, most of longleaf pine planting area was removed for the installation of a natural gas pipeline. OUC will be negotiating with the regulatory agencies to determine adequate replacement of this planting area.

4.2 Mitigation Area 3.2

Mitigation Area 3.2 includes pond cypress seedling, longleaf pine seedling, cypress sapling, and longleaf pine sapling plantings. There are five success requirements for the pond cypress seedling planting areas. The pond cypress seedling planting area is meeting only 3 of the 5 success criteria: cover by nuisance, non-wetland and exotic species is less than 10% (0%), the area is jurisdictional, and the site was constructed in accordance with the approved plans. The area is close to meeting the tree density criterion of 400 trees per acre (363 trees per acre was recorded) and 80% cover by wetland vegetation of 80% (64.7% cover was recorded). *The area is not meeting all of the success criteria and it is required that the mitigation methods in this area be readdressed.* However, site conditions appear favorable for pond cypress in this area and with time and possible supplemental plantings, the site could soon achieve these last two success criteria.

The longleaf pine seedling planting area has a success criterion of a density of 300 trees per acre. During the 2003 monitoring event, the longleaf pine seedling planting area only had a density of 229 trees per acre. These results are consistent with the previous monitoring results for this area. *The longleaf pine seedling planting area is not meeting the success criterion and the mitigation methods in this area should be reassessed.* Because the density has remained consistent for the last 8 years, it shows that the area is capable of supporting longleaf pine. Additional plantings may be all that is needed to achieve the success criterion. Also, the purpose of the habitat and the success criterion should be evaluated. If the goal of the area is to provide habitat (foraging and/or nesting) for red-cockaded woodpeckers, the tree density may be sufficient, and the mitigation area is successfully meeting its intended goal.

The slash pine sapling planting area has a success criterion of the same number of trees being present as were planted. During the 2003 monitoring event, both the north and south planting areas had greater than 100% survival of trees. *The both the north and south slash pine sapling planting area in Mitigation Area 3.2 is meeting the success criterion and should be released from further monitoring.*

The cypress tree planting area has a success criterion of 95% survival of planted trees. During the 2003 monitoring event, no cypress trees were recorded. *The cypress tree planting area is not meeting the success criterion and the mitigation methods in this area should be reassessed.*

Table 4-1

Evaluation of data collected in 2003 at the Curtis H. Stanton Energy Center, Orange County, Florida with the success criteria.

Mitigation Area	Habitat	Year 5 Success Criteria	2003 Monitoring Status	Comments
3.1 - Railroad North	Cypress Seedling Planting (400 seedlings per acre; 10'-12' in 4' cones)	1) 400 wetlands trees/acre above the herbaceous stratum, and/or tree cover >33%, with no area greater than 1 acre having <20% cover.	Northern Planting Area: 139 trees per acre with 5% canopy cover	Tree density is below success requirement
			Southern Planting Area: 428 trees per acre with 1% canopy cover	Success Criterion is Being Achieved
		2) 80% of cover in herbaceous & subcanopy strata shall be USFWS listed as Facultative wet or obligate.	Northern Planting Area: 17% herbaceous cover with Facultative wet or obligate vegetation	Herbaceous cover by Facultative wet or obligate vegetation is below success requirement
			Southern Planting Area: 92.5% herbaceous cover with Facultative wet or obligate vegetation	Success Criterion is Being Achieved
		3) Cover by nuisance, non-wetland and exotic species is less than 10%.	0% cover by nuisance, non-wetland and exotic species for both the Northern and Southern Planting Areas.	Success Criterion is Being Achieved
		4) The area is jurisdictional.	Northern Planting Area: Based on vegetative cover and hydrology, this area would not be jurisdictional.	Success Criterion is not being met.
			Southern Planting Area: Based on vegetative cover and hydrology, this area would be jurisdictional.	Success Criterion is Being Achieved
		5) Mitigation was completed as approved.	Northern Planting Area: Constructed in accordance with the approved plans.	Success Criterion is Being Achieved
			Southern Planting Area: Constructed in accordance with the approved plans.	Success Criterion is Being Achieved
	Longleaf Pine Seedling Planting (500 seedlings per acre; 2 year old containerized)	Average density 300 seedlings/acre	18 trees per acre	Tree density is below success requirement
	Longleaf Pine Tree Planting (10' - 15' tall; average 8' centers)	Same # as originally planted	13 trees (8% survival - 196 originally planted)	Tree survival is below success requirement

Table 4-1 (Continued)

Evaluation of data collected in 2003 at the Curtis H. Stanton Energy Center, Orange County, Florida with the success criteria.

Mitigation Area	Habitat	Year 5 Success Criteria	2003 Monitoring Status	Comments
3.2 - Railroad South	Cypress Seedling Planting (400 seedlings per acre; 10'-12' in 4' cones)	1) 400 wetlands trees/acre above the herbaceous stratum, and/or tree cover >33%, with no area greater than 1 acre having <20% cover.	363 trees per acre with 10% canopy cover	Tree density is below success requirement
		2) 80% of cover in herbaceous & subcanopy strata shall be USFWS listed as Facultative wet or obligate.	67.4% herbaceous cover with Facultative wet or obligate vegetation	Herbaceous cover by Facultative wet or obligate vegetation is below success requirement
		3) Cover by nuisance, non-wetland and exotic species is less than 10%.	0% cover by nuisance, non-wetland and exotic species	Success Criterion is Being Achieved
		4) The area is jurisdictional.	Based on vegetative cover and hydrology, this area would be jurisdictional.	Success Criterion is Being Achieved
		5) Mitigation was completed as approved.	Constructed in accordance with the approved plans.	Success Criterion is Being Achieved
	Longleaf Pine Seedling Planting (500 seedlings per acre; 2 year old containerized)	Average density 300 seedlings/acre	229 trees per acre	Tree density is below success requirement
	Slash Pine Trees (10' – 15' tall; average 8' centers)	100% Survival	Northern Planting Area: 136 trees (>100% survival - 132 originally planted)	Success Criterion is Being Achieved
			Southern Planting Area: 132 trees (>100% survival - 110 originally planted)	Success Criterion is Being Achieved
	Cypress Trees (10' – 15' tall; average 8' centers)	95% Survival	0 trees (0% survival - 40 originally planted)	Tree survival is below success requirement
3.3 - RCW - West	Longleaf Pine Seedling Planting 300 seedlings per acre; 2 year old containerized)	Average density 150 seedlings/acre	106 trees per acre	Tree density is below success requirement
3.4 - Transmission Line North	Longleaf Pine Trees (10' – 15' tall; average 8' centers)	100% Survival	377 trees (57% survival - 662 originally planted)	Tree survival is below success requirement

Table 4-1 (Continued)

Evaluation of data collected in 2003 at the Curtis H. Stanton Energy Center, Orange County, Florida with the success criteria.

Mitigation Area	Habitat	Year 5 Success Criteria	2003 Monitoring Status	Comments
3.5 - East Prairies	Herbaceous Wetlands	1) Encroachment by woody vegetation other than cypress is controlled.	Woody vegetation including wax myrtle represents only 2% vegetative cover and is being controlled.	Success Criterion is Being Achieved
		2) Wetland species in all strata are reproducing naturally either by fruiting or vegetative spread.	All strata appear to be reproducing naturally.	Success Criterion is Being Achieved
		3) Vegetation boundaries have shifted outward and upward along the elevation gradient, based upon visual observation.	Based on monitoring results, relative % coverage by wetland species has increased in Plots 2 & 3 indicating a shift in wetland species upward along the elevation gradient.	Success Criterion is Being Achieved
		4) Herbaceous wetlands show an increased % frequency of occurrence of wetland species (USFWS obligate, FAC-wet) in > 95% of plots 2, 3, & 4.	Compared to the 1994 monitoring event (prior to construction of the berm), 81% of the Plots 2-4 have a higher relative percent cover of wetland vegetation. (98% in 1999)	Currently, the % frequency of occurrence of wetland species is below the success requirement. However, the success criterion was being achieved in 1999
		5) After a minimum of 5 years, jurisdictional area has increased in size.	No jurisdictional analysis has been performed	-
		6) The relative % frequency of occurrence of exotic and nuisance species (including <i>Myrica cerifera</i>) is less than 10%.	No nuisance and exotic species is present and wax myrtle is providing only 2% cover.	Success Criterion is Being Achieved
		7) The relative frequency of occurrence of non-listed or upland species (USFWS FAC-U and obligate upland) after five years is less than the percent frequency of occurrence value of the baseline data.	During the 2003 monitoring event, upland species represented 14% of the monitoring plots. In 1994, upland species represented 21% relative percent cover of the monitoring plots.	Success Criterion is Being Achieved
		8) A success determination shall not occur sooner than 5 years after the completion of the dredge and fill in the enhancement areas.	-	-

Table 4-1 (Continued)

Evaluation of data collected in 2003 at the Curtis H. Stanton Energy Center, Orange County, Florida with the success criteria.

Mitigation Area	Habitat	Year 5 Success Criteria	2003 Monitoring Status	Comments
	Cypress Domes (Hydrologic Enhancement)	1) Wetland canopy trees are not dying at an accelerated rate due to the altered hydroperiod, as indicated by annual aerial photography and groundtruthing.	No accelerated loss of canopy trees observed.	Success Criterion is Being Achieved
		2) Wetland species in all strata are reproducing naturally either by fruiting or vegetative spread.	All strata appear to be reproducing naturally.	Success Criterion is Being Achieved
		3) Cover of nuisance non-wetland and exotic species is less than 10%.	No nuisance or exotic vegetation was recorded.	Success Criterion is Being Achieved
		4) The mitigation performed as approved and increased the hydroperiod in the wetland, as evidenced by attainment of the success criteria.	Constructed in accordance with the approved plans.	Success Criterion is Being Achieved
	Longleaf Pine Seedling Planting 500 seedlings per acre; 2 year old containerized)	Average density 300 seedlings/acre	162 trees per acre	Tree density is below success requirement

Table 4-1 (Continued)

Evaluation of data collected in 2003 at the Curtis H. Stanton Energy Center, Orange County, Florida with the success criteria.

Mitigation Area	Habitat	Year 5 Success Criteria	2003 Monitoring Status	Comments
3.6 - RCD East and West	Herbaceous Wetlands	1) Encroachment by woody vegetation other than cypress is controlled.	Woody vegetation including wax myrtle represents only 8% vegetative cover and is being controlled.	Success Criterion is Being Achieved
		2) Wetland species in all strata are reproducing naturally either by fruiting or vegetative spread.	All strata appear to be reproducing naturally.	Success Criterion is Being Achieved
		3) Vegetation boundaries have shifted outward and upward along the elevation gradient, based upon visual observation.	Based on monitoring results, relative % coverage by wetland species has increased in Plots 2 & 3 indicating a shift in wetland species upward along the elevation gradient.	Success Criterion is Being Achieved
		4) Herbaceous wetlands show an increased % frequency of occurrence of wetland species (USFWS obligate, FAC-wet) in > 95% of plots 2, 3, & 4.	Compared to the 1994 monitoring event, 51% of the Plots 2-4 have a higher relative percent cover of wetland vegetation. (80% in 1999)	Currently, the % frequency of occurrence of wetland species is below the success requirement.
		5) After a minimum of 5 years, jurisdictional area has increased in size.	No jurisdictional analysis has been performed	-
		6) The relative % frequency of occurrence of exotic and nuisance species (including <i>Myrica cerifera</i>) is less than 10%.	No nuisance and exotic species is present and wax myrtle is providing only 2% cover.	Success Criterion is Being Achieved
		7) The relative frequency of occurrence of non-listed or upland species (USFWS FAC-U and obligate upland) after five years is less than the percent frequency of occurrence value of the baseline data.	During the 2003 monitoring event, upland species represented 14% of the monitoring plots. In 1994, upland species represented 19% relative percent cover of the monitoring plots.	Success Criterion is Being Achieved
		8) A success determination shall not occur sooner than 5 years after the completion of the dredge and fill in the enhancement areas.	-	-

Table 4-1 (Continued)

Evaluation of data collected in 2003 at the Curtis H. Stanton Energy Center, Orange County, Florida with the success criteria.

Mitigation Area	Habitat	Year 5 Success Criteria	2003 Monitoring Status	Comments
	Cypress Domes (Hydrologic Enhancement)	1) Wetland canopy trees are not dying at an accelerated rate due to the altered hydroperiod, as indicated by annual aerial photography and groundtruthing.	No accelerated loss of canopy trees observed.	Success Criterion is Being Achieved
		2) Wetland species in all strata are reproducing naturally either by fruiting or vegetative spread.	All strata appear to be reproducing naturally.	Success Criterion is Being Achieved
		3) Cover of nuisance non-wetland and exotic species is less than 10%.	No nuisance or exotic vegetation was recorded.	Success Criterion is Being Achieved
		4) The mitigation performed as approved and increased the hydroperiod in the wetland, as evidenced by attainment of the success criteria.	Constructed in accordance with the approved plans.	Success Criterion is Being Achieved
	Longleaf Pine Seedlings (500 seedlings per acre; 2 year old containerized)(RCD-West)	Average density 300 seedlings/acre	213 trees per acre	Tree density is below success requirement
	Cypress Seedlings (400 seedlings per acre; 10'-12' in 4' cones)(RCD-East)	1) 400 wetlands trees/acre above the herbaceous stratum, and/or tree cover >33%, with no area greater than 1 acre having <20% cover.	410 trees per acre with 2% canopy cover	Success Criterion is Being Achieved
		2) 80% of cover in herbaceous & subcanopy strata shall be USFWS listed as Facultative wet or obligate.	56.0% herbaceous cover with Facultative wet or obligate vegetation	Herbaceous cover by Facultative wet or obligate vegetation is below success requirement
		3) Cover by nuisance, non-wetland and exotic species is less than 10%.	0% cover by nuisance, non-wetland and exotic species	Success Criterion is Being Achieved
		4) The area is jurisdictional.	Based on vegetative cover and hydrology, this area would be jurisdictional.	Success Criterion is Being Achieved
		5) Mitigation was completed as approved.	Constructed in accordance with the approved plans.	Success Criterion is Being Achieved

Table 4-1 (Continued)

Evaluation of data collected in 2003 at the Curtis H. Stanton Energy Center, Orange County, Florida with the success criteria.

Mitigation Area	Habitat	Year 5 Success Criteria	2003 Monitoring Status	Comments
3.7 - Railroad Loop	Staff Gauge # 8	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuations at staff gauges and piezometers (monthly reading).	Staff gauge readings indicate a return of a more natural seasonally fluctuating hydroperiod.	Success Criterion is Being Achieved
	Staff Gauge # 9	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuations at staff gauges and piezometers (monthly reading).	Staff gauge readings indicate a return of a more natural seasonally fluctuating hydroperiod.	Success Criterion is Being Achieved
	Piezometer # 6	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuations at staff gauges and piezometers (monthly reading).	Piezometer readings indicate a return of a more natural seasonally fluctuating hydroperiod.	Success Criterion is Being Achieved
	Piezometer # 7	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuations at staff gauges and piezometers (monthly reading).	Piezometer readings indicate a return of a more natural seasonally fluctuating hydroperiod.	Success Criterion is Being Achieved

4.4 Mitigation Area 3.4

Mitigation Area 3.4 includes longleaf pine sapling plantings in clusters within the transmission line corridor. The longleaf pine sapling planting area has a success criterion of 100% survival of the planted trees. During the 2003 monitoring event, 57% of the planted longleaf pine were surviving. These results represent a slight decrease in survival from the previous monitoring results for this area. *The mitigation area is not meeting the success criterion and the mitigation methods in this area should be reassessed.* After the monitoring, most of longleaf pine trees were removed because of interference with the power lines. OUC will be negotiating with the regulatory agencies to determine adequate replacement of this planting area.

4.5 Mitigation Area 3.5

Mitigation Area 3.5 includes longleaf pine seedling plantings and hydrologic enhancements in the form of the filling of ditches in an effort to restore historic runoff patterns and to increase wetland vegetation coverage. The longleaf pine seedling planting area has a success criterion of a density of 300 trees per acre. During the 2003 monitoring event, the longleaf pine seedling planting area only had a density of 162 trees per acre. *The longleaf pine seedling planting area is not meeting the success criterion and the mitigation methods in this area should be reassessed.* Because the tree density has remained relatively high for the last 8 years, it shows that the area is capable of supporting longleaf pine. Additional plantings may be all that is needed to achieve the success criterion. Also, the purpose of the habitat and the success criterion should be evaluated. If the goal of the area is to provide habitat (foraging and/or nesting) for red-cockaded woodpeckers, the tree density may be sufficient, and the mitigation area is successfully meeting its intended goal.

Success criteria for the existing cypress domes in Mitigation Area 3.5 address potential adverse responses resulting from the altered hydrology. During the site work, visual examination of the cypress domes and aerial photography review showed that the canopy trees within the cypress domes are healthy and reproducing naturally. No accelerated loss of these individuals due to the altered hydroperiod is apparent. *All of the success criteria for the cypress domes have been achieved. The cypress domes in Mitigation Area 3.5 should be released from further monitoring.*

The herbaceous wetlands within Mitigation Area 3.5 also have success criteria. Based on monitoring results, relative percent coverage by wetland species has increased in plots 2 & 3 indicating a shift in wetland species upward along the elevation gradient. Compared to the 1994 monitoring event (prior to construction of the berm), in 2003 81% of the plots 2-4 have a higher relative percent cover of wetland vegetation, slightly below the 1999 results which showed 98% of the plots 2-4 had a higher relative percent cover of wetland vegetation. Coverage by upland species has decreased. Upland species represented 14% of the monitoring plots, while in 1994, upland species represented 21% relative percent cover of the monitoring plots. Woody vegetation including wax myrtle represents only 2% vegetative cover and all strata appear to be reproducing naturally. *All of the success criteria for the herbaceous wetland and cypress domes have been achieved. The herbaceous wetlands and cypress domes in Mitigation Area 3.5 should be released from further monitoring.*

Admittedly, the success criterion associated with the increase in frequency of wetland coverage in 95% of the plots 2-4 was initially achieved in 1999 and has decreased slightly since then as a result

of natural conditions. As evidenced in several trend changes since the 1999 monitoring event, the naturally occurring low rainfall and drought conditions has resulted in vegetative fluctuations. It would be expected for the edge plots to experience a decrease in wetland species coverage and an increase in facultative and upland species coverage. However, as seen with the increase in rainfall in the past few years, wetland species coverage is still higher than prior to mitigation activities indicating success.

4.6 Mitigation Area 3.6

Mitigation Area 3.6 includes pond cypress seedling plantings, longleaf pine seedling plantings, and hydrologic enhancements in the form of the filling of ditches in an effort to restore historic runoff patterns and to increase wetland vegetation coverage. The longleaf pine seedling planting area has a success criterion of a density of 300 trees per acre. During the 2003 monitoring event, the longleaf pine seedling planting area only had a density of 213 trees per acre. *The longleaf pine seedling planting area is not meeting the success criterion and the mitigation methods in this area should be reassessed.* Because the tree density has remained relatively stable for the last 8 years, it shows that the area is capable of supporting longleaf pine. Additional plantings may be all that is needed to achieve the success criterion. Also, the purpose of the habitat and the success criterion should be evaluated. If the goal of the area is to provide habitat (foraging and/or nesting) for red-cockaded woodpeckers, the tree density may be sufficient, and the mitigation area is successfully meeting its intended goal.

The pond cypress seedling planting area is meeting four of the five of the success criteria. It has a density greater than 400 wetlands trees/acre (410 trees per acre); cover by nuisance, non-wetland and exotic species is less than 10% (0%); the area is jurisdictional (based on a qualitative assessment by an environmental scientist experienced in performing wetland jurisdictional determinations); and the site was constructed in accordance with the approved plans. Vegetative cover in the herbaceous and subcanopy strata listed as Facultative wet or obligate was 56.0%, below the success criterion of 80%. The dominant species in this area was wiregrass, which is listed as FAC-. While this species is not be included for evaluation of the success criteria, it is considered a wetland species for delineating jurisdictional wetlands according to the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual (Technical Report Y-87-1). Therefore, this area is a jurisdictional wetland and should be considered successful. The dominance of the wiregrass could be the result of increases in coverage as a result of the drought conditions experienced after the 1999 monitoring event. *The pond cypress seedling planting area in Mitigation Area 3.6 should be considered successful and be released from further monitoring.*

Success criteria for the existing cypress domes in Mitigation Area 3.6 address potential adverse responses resulting from the altered hydrology. During the site work, visual examination of the cypress domes and aerial photography review showed that the canopy trees within the cypress domes are healthy and reproducing naturally. No accelerated loss of these individuals due to the altered hydroperiod is apparent. *All of the success criteria for the cypress domes have been achieved. The cypress domes in Mitigation Area 3.6 should be released from further monitoring.*

The herbaceous wetlands within Mitigation Area 3.6 also have success criteria. Based on monitoring results, relative percent coverage by wetland species has increased in plots 2 & 3 indicating a shift in

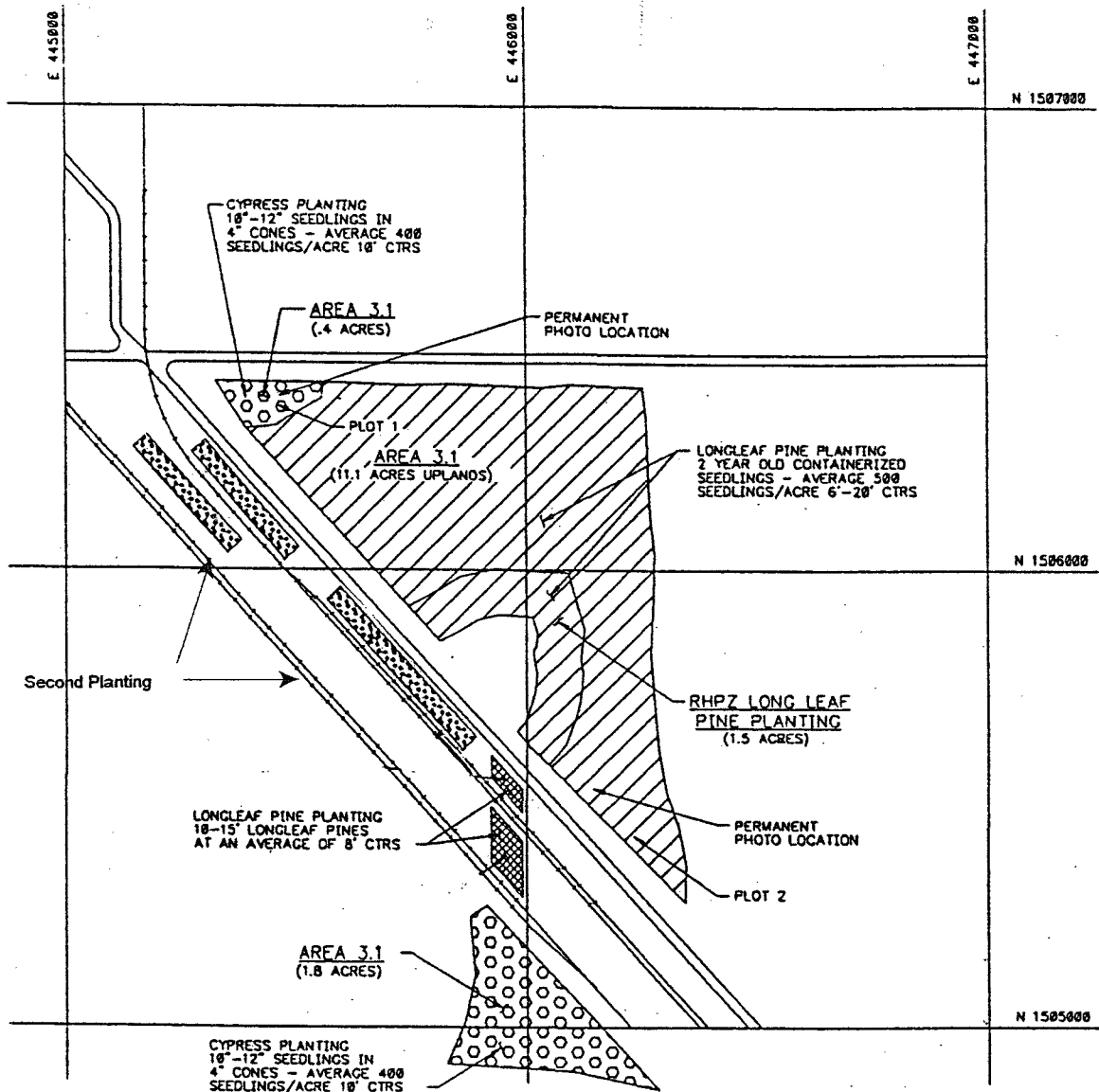
wetland species upward along the elevation gradient. Compared to the 1994 monitoring event (prior to construction of the berm), in 2003 51% of the plots 2-4 have a higher relative percent cover of wetland vegetation, slightly below the 1999 results which showed 80% of the plots 2-4 had a higher relative percent cover of wetland vegetation. Coverage by upland species has decreased. Upland species represented 14% of the monitoring plots, while in 1994, upland species represented 19% relative percent cover of the monitoring plots. Woody vegetation including wax myrtle represents only 8% vegetative cover and all strata appear to be reproducing naturally. The herbaceous wetlands are meeting all but one of the success criteria. The only criterion it is not meeting is the 95% of plots 2-4 having an increase in wetland coverage. Based on all of the data collected the last 10 years, the plots 2-4 have significantly increased in coverage of wetland species. After the 1999 monitoring event, 80% of the plots had an increase in wetland coverage. Admittedly, the frequency of plots 2-4 with an increase in wetland species coverage has decreased slightly since then as a result of natural conditions. As evidenced in several trend changes since the 1999 monitoring event, the naturally occurring low rainfall and drought conditions has resulted in vegetative fluctuations. It would be expected for the edge plots to experience a decrease in wetland species coverage and an increase in facultative and upland species coverage. However, as seen with the increase in rainfall in the past few years, wetland species coverage is still higher than prior to mitigation activities indicating success. *The herbaceous wetlands in Mitigation Area 3.6 should be considered successful and be released from further monitoring.*

4.7 Mitigation Area 3.7

Mitigation Area 3.7 included 95 acres of hydrologic enhancement by way of installation of culverts and a weir to restore a more natural hydroperiod to the area. The success criteria for Mitigation Area 3.7 state that each staff gauge's and piezometer's readings need to indicated a return of a more natural seasonally fluctuating hydroperiod. Analysis of the staff gauge and piezometer wells reveals that hydrologic conditions in Mitigation Area 3.7 have been restored to a more seasonally fluctuating hydroperiod. After installation of the culverts in 1994, staff gauge and piezometer levels began fluctuating in accordance with the annual rainfall. *The success criteria for the Mitigation Area 3.7 have been achieved. Mitigation Area 3.7 should be released from further monitoring.*

5.0 REFERENCES

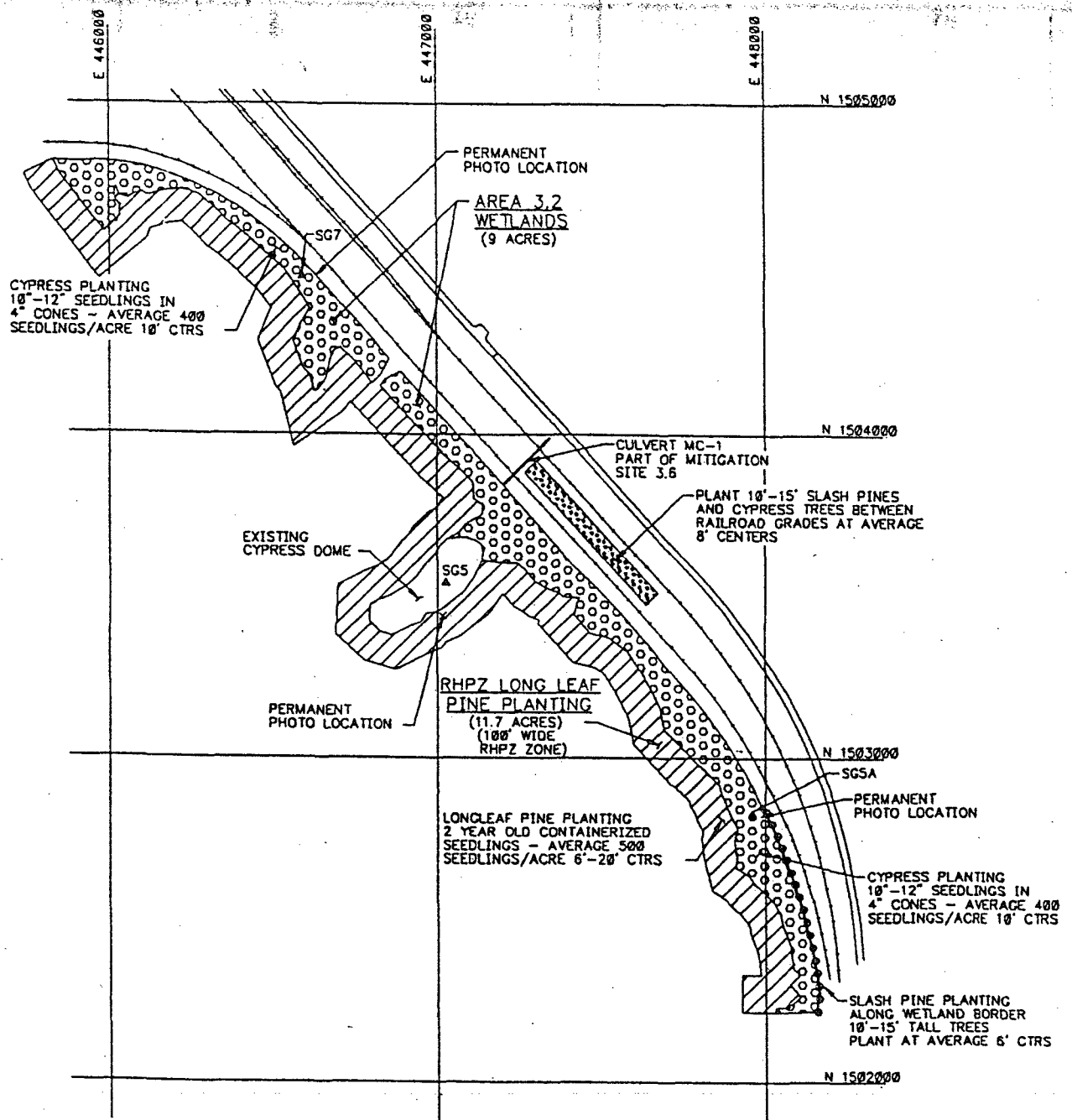
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RAILROAD NORTH (3.1)
 UPLAND RHPZ LONGLEAF PINE PLANTING,
 CYPRESS PLANTING, WILDLIFE CORRIDOR CREATION



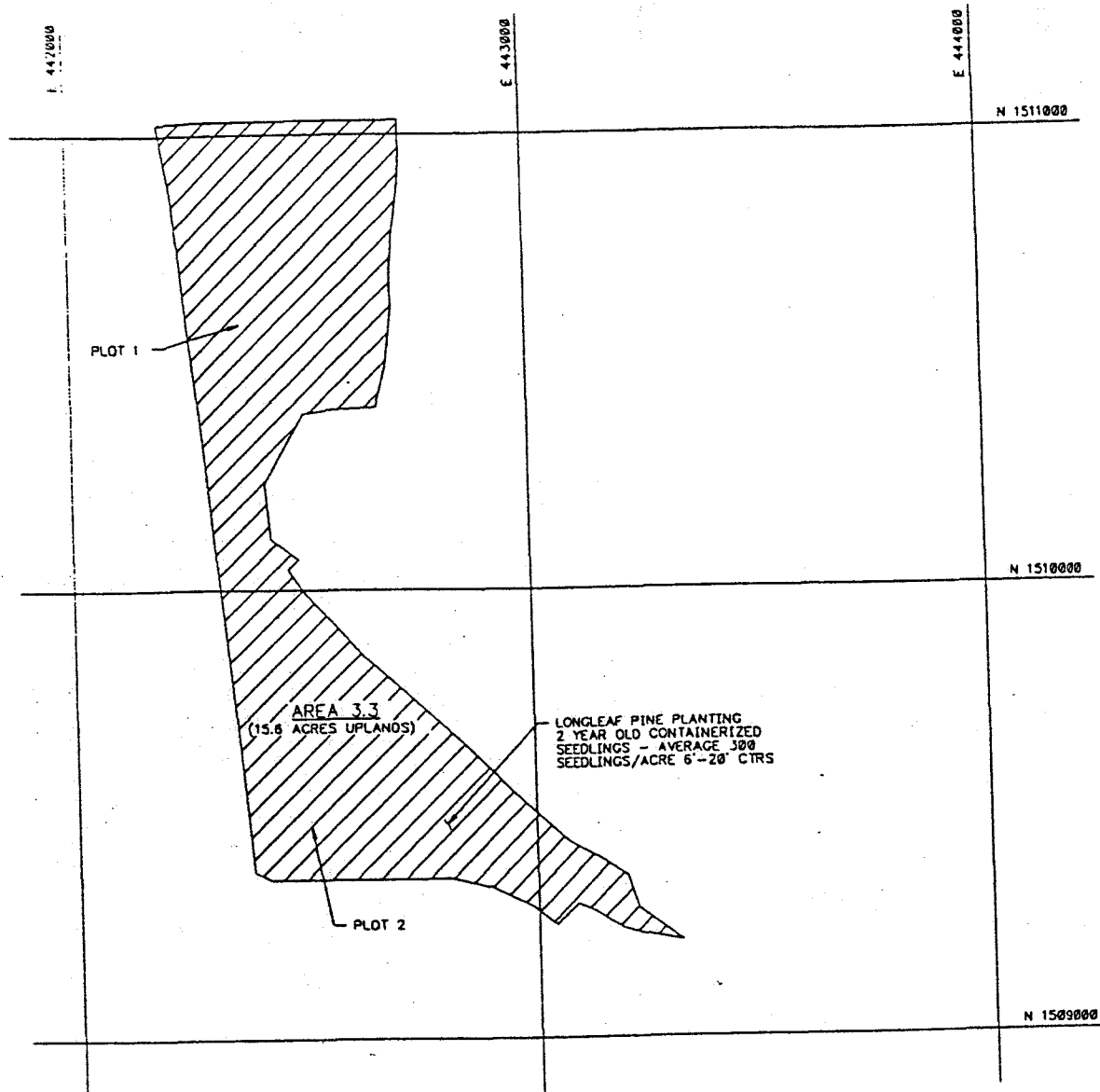
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ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2				PROJECT	DRAWING NUMBER			REV
SITEWORK - MITIGATION AREA 3.1				CODE				
				AREA				



RAILROAD SOUTH (AREA 3.2)
 CYPRESS AND SLASH PINE PLANTING, HYDROLOGIC ENHANCEMENT,
 RHPZ LONG LEAF PINE PLANTING, SJRWMD MITIGATION SITE



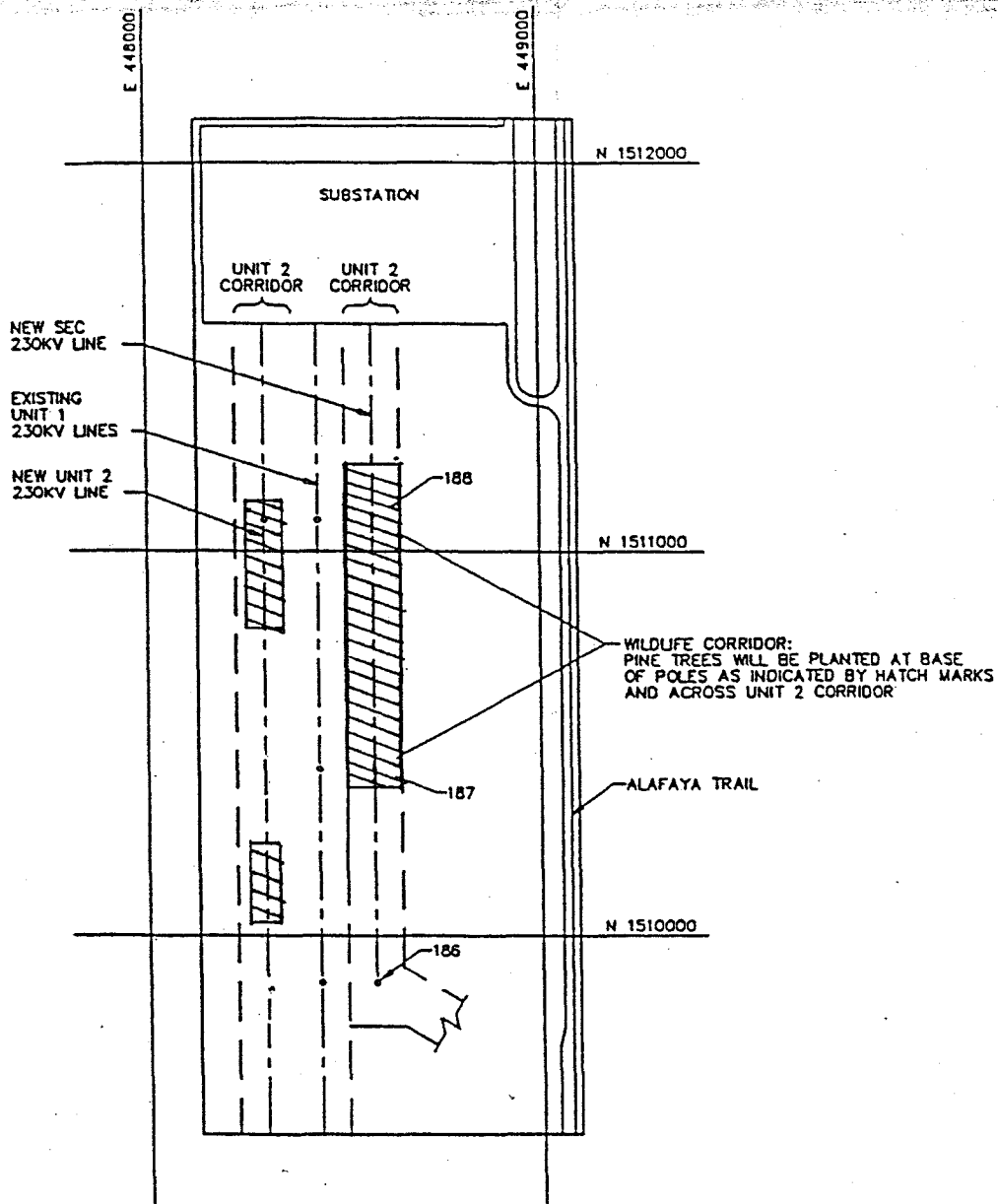
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ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2					PROJECT	DRAWING NUMBER		REV
SITWORK - MITIGATION AREA 3.2					CODE			
					AREA			



RCW WEST (AREA 3.3)
LONG LEAF PINE PLANTING



ENGINEER		DRAWN		1	03-31-93	REVISED PER FDER COMMENTS				
CHECKED		DATE		0	02-22-93	INITIAL ISSUE				
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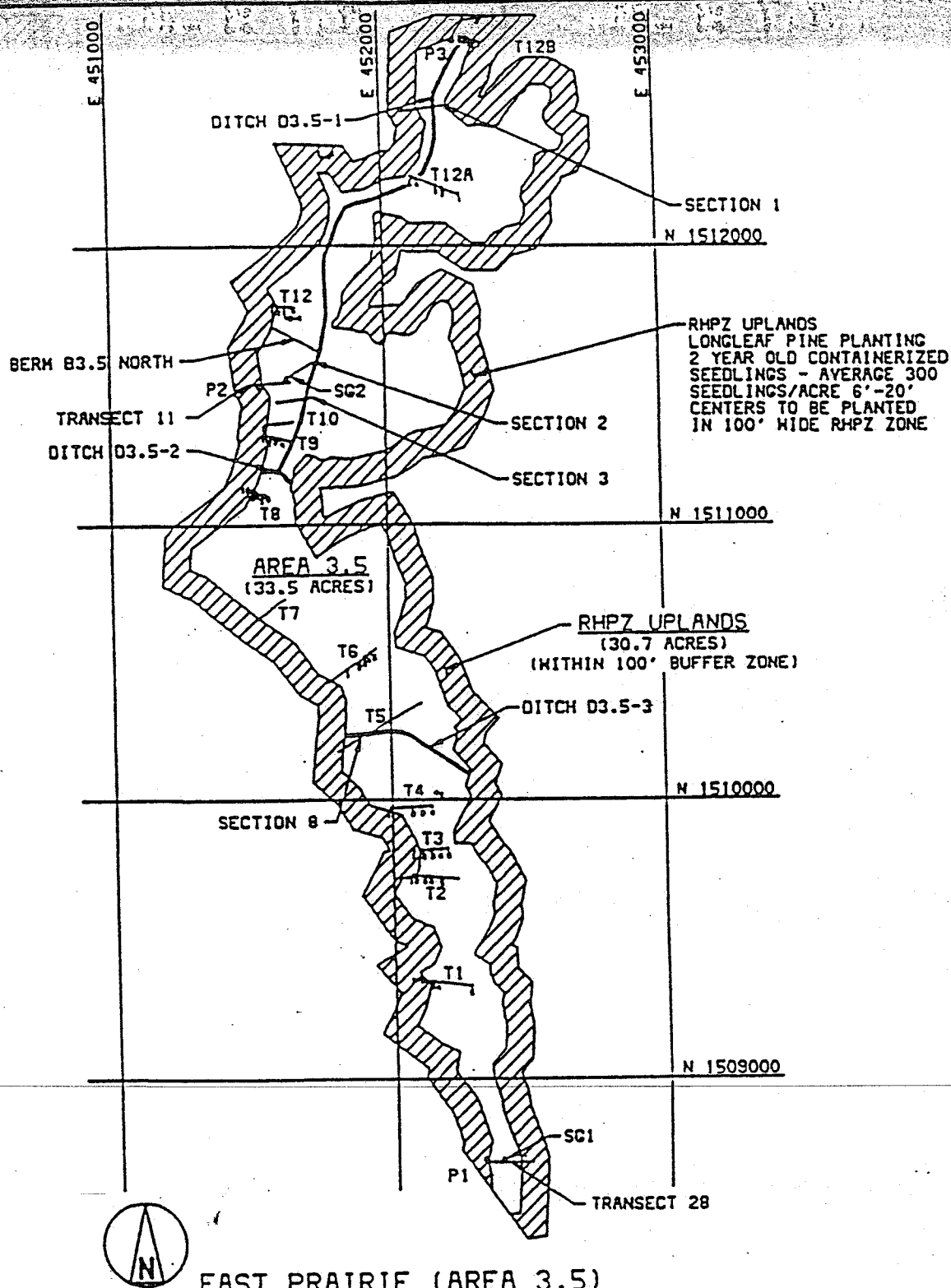


TRANSMISSION LINE NORTH (AREA 3.4)



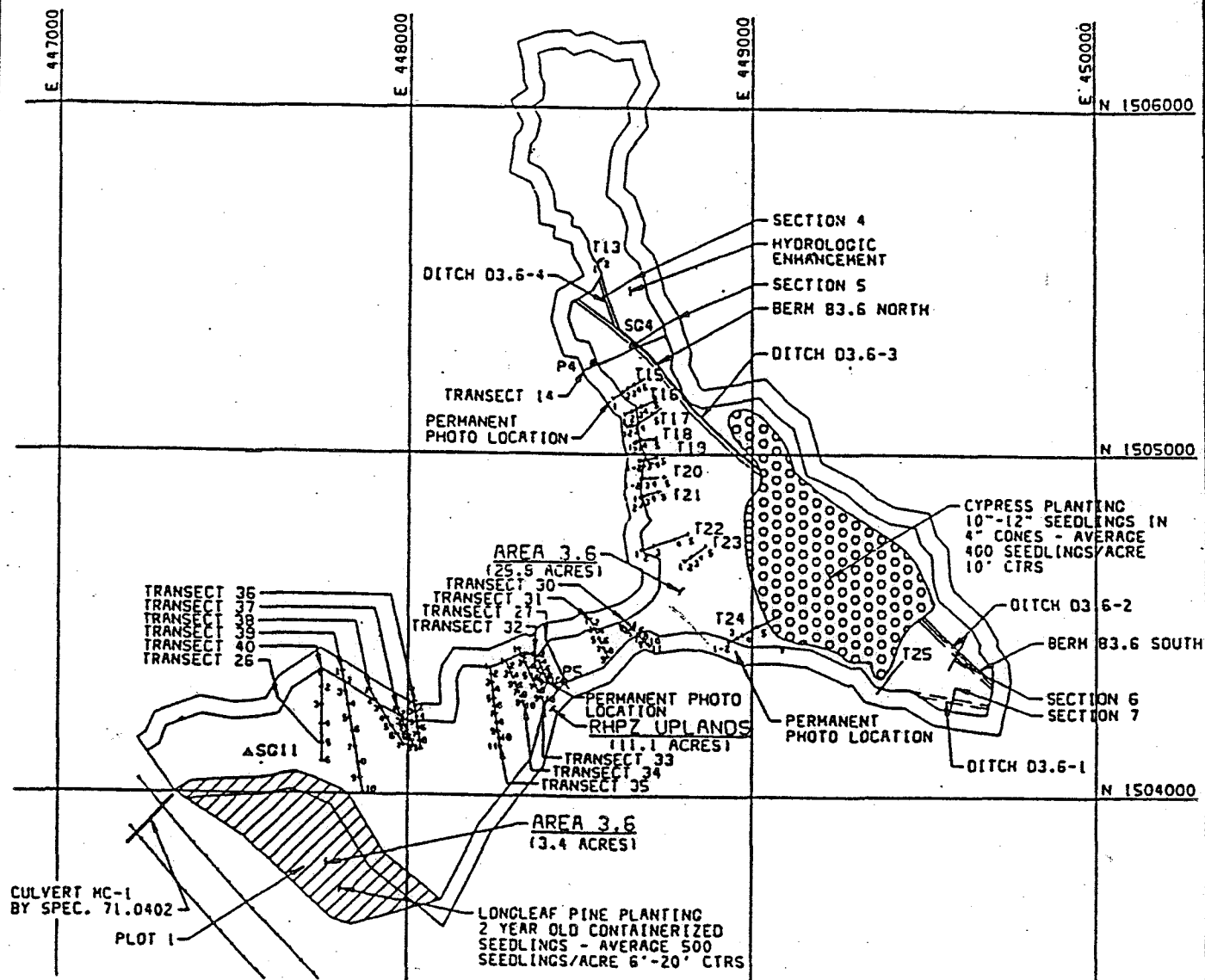
SCALE 1" = 500'

SURVEYOR		DRAWN		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY	CHK	APP	FLM
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY	CHK	APP	FLM
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2								PROJECT		DRAWING NUMBER		REV	
SITWORK - MITIGATION AREA 3.4								CODE		AREA			



EAST PRAIRIE (AREA 3.5)
WETLAND HYDROLOGIC ENHANCEMENT

		2	05-14-93	REVISED PER FDER COMMENTS								
		1	04-05-93	REVISED PER FDER COMMENTS								
		0	02-22-93	INITIAL ISSUE								
ENGINEER	DRAWN											
CHECKED	DATE	NO	DATE	REVISIONS AND RECORD OF ISSUE				BY	CHK	APP	FLM	
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2						PROJECT		DRAWING NUMBER		REV		
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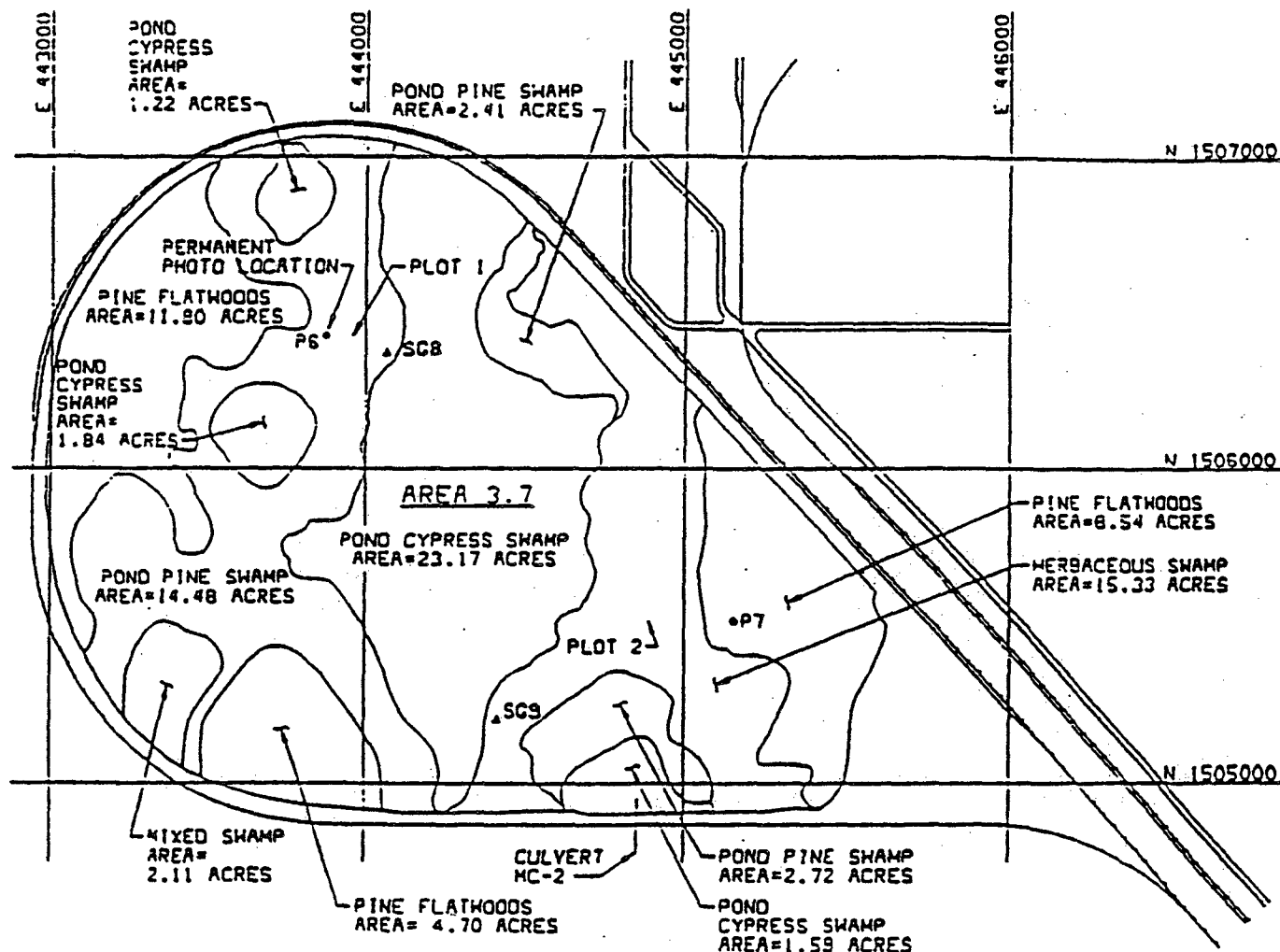
RCD (AREA 3.6)

NOTES:

ALL DITCHES SHOWN TO BE
FILLED; ALL BERMS SHOWN TO
BE REMOVED.



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		4	06-11-93	REVISED PER FDER COMMENTS					
		3	05-21-93	REVISED PER FDER COMMENTS					
		2	05-14-93	REVISED PER FDER COMMENTS					
		1	04-05-93	REVISED PER FDER COMMENTS					
ENGINEER	DRAWN	0	02-22-93	INITIAL ISSUE					
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ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2					PROJECT		DRAWING NUMBER		REV
SITEWORK - MITIGATION AREA 3.6					CODE				
					AREA				



RAILROAD LOOP (AREA 3.7)
(HYDROLOGIC ENHANCEMENT)
SFHMD MITIGATION AREA



ENGINEER		DRAWN		1 03-31-93 REVISED PER FOER COMMENTS							
CHECKED		DATE		0 02-22-93 INITIAL ISSUE							
				NO DATE REVISIONS AND RECORD OF ISSUE		BY CHK APP FLM					
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2						PROJECT		DRAWING NUMBER		REV	
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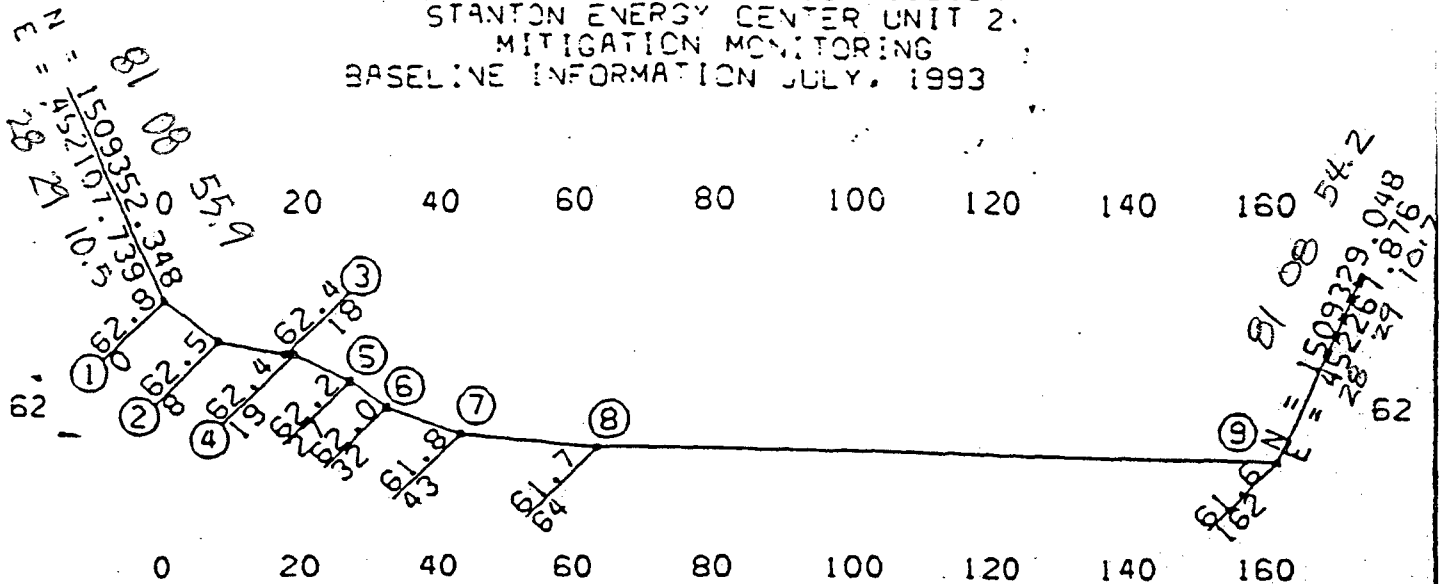
Appendix B - Mitigation Area Planting Specifications

Mitigation Area	Species Planted	Dates	Area	Description	Information (Planting density)	Comments
3.1 (Railroad North)	Longleaf pine seedlings	1/93 -2/94 and 1-2/96 2 nd planting.	11.1 acres	Disturbed mesic flatwoods (muck spreading). Burn before planting.	500/acre, 2 year-old containerized seedlings.	Extensive growth of cogongrass.
	Pond Cypress seedlings	11/93-2/94 and 1-2/96 2 nd planting.	2.2 acres	Disturbed flatwoods (muck spreading). Burn before planting.	10-12" seedlings at 400/acre.	2 planting areas. See figure for 3.1, Appendix A
	Longleaf pine saplings	11/93-2/94 and 1-2/96 2 nd planting.	0.28 acres	Mowed area between road & east track & west track.	700/acre first time & 165 total trees second time.	Only 14 trees survived first planting.
3.2 (Railroad South)	Longleaf pine seedlings	11/93-2/94 and 1-2/96 2 nd planting.	11.7 acres	Undisturbed longleaf pine flatwoods 100' ft. wide buffer.	500/acre, 2years containerized.	Vehicle access restricted.
	Pond Cypress seedlings	11/93-2/94.	8.0 acres	Disturbed herbaceous wetland.	400/acre, 4", containerized.	Vehicle access restricted, 9 acres planted.
	Pond cypress saplings	11/93-2/94.	1.0 acre	Deep wetland at staff gauge, within 8 acre cypress seedling area.	400 total trees, 2'-3' feet tall.	1 complete replanting required.
	Slash pine trees	11/93-2/94.	663' long	Along wetland border.	Single row, 10-15' ft. tall, 110 total trees.	
	Slash pine trees	11/93-2/94.	0.2 acres	Between railroad grades.	Triple rows, 10-15 ft tall, 132 trees.	Included a few loblolly pines.
	Pond cypress saplings	11/93-2/94.	0.2 acres	Between railroad grades.	Double row, 10-15 ft. tall, 40 trees.	

Appendix B - Mitigation Area Planting Specifications

Mitigation Area	Species Planted	Dates	Area	Description	Information (Planting density)	Comments
3.3 (RCW-West)	Longleaf pine seedlings	11/93-2/94 and 1-2/96 2 nd planting. Test plot in 95.	15.6 acres	Disturbed upland on south end, xeric flatwoods on north half.	300/acre, 2 year old containerized in both plantings. Same density in test plot.	Relocated stored material.
3.4 (T-line North)	Longleaf pine saplings.	11/93-2/94 and 1-2/96 2 nd planting.	1.4 acres in 4 blocks	Within transmission line corridor.	None in 93/94 662 total trees in 96. 3.5-8 ft tall.	Included some slash pine.
3.5 (East wet prairies)	Longleaf pine saplings	11/93-2/94 and 1-2/96 2 nd planting. Two additional test plots in 95.	30.7 acres	Undisturbed longleaf pine RHPZ surrounding wetland system.	500/acre in both entire plantings. Same density in two test plots.	One planting episode resulted in extensive damage to RHPZ.
3.6 (RCD East & West)	Longleaf pine seedlings	11/94-2/94 and 9/96 2 nd planting.	3.4 acres	Mesic flatwoods.	500/acre in both entire plantings.	Protected surrounding flatwoods.
	Pond cypress seedlings	11/94-2/94 and 2 nd planting 1995	4.99 acres	Herbaceous marsh.	400/acre 10" - 12" in 4" containers.	Protected surrounding flatwoods.

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BASELINE INFORMATION JULY, 1993



TRANSECT 1
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.5

1	BEGIN TRANSECT 1, NE COR PLOT 1 (PINE FLATWOOD ZONE)
2	PINE FLATWOOD ZONE-UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
3	NE COR PLOT 2 (UPPER RHYNCHOSPORA-ARISTIDA ZONE) AND WETLAND BOUNDARY
4	UPPER RHYNCHOSPORA-ARISTIDA ZONE-LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
5	PLOT 3 (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
6	LOWER RHYNCHOSPORA-ARISTIDA ZONE-ERIOCAULON ZONE BOUNDARY
7	NE COR PLOT 4 (ERIOCAULON ZONE)
8	ERIOCAULON ZONE-CYPRESS DOME-RHYNCHOSPORA OPEN WATER ZONE BOUNDARY
9	EAST END TRANSECT 1 AND NW COR PLOT 5 (CYPRESS DOME-RHYNCHOSPORA OPEN WATER ZONE)

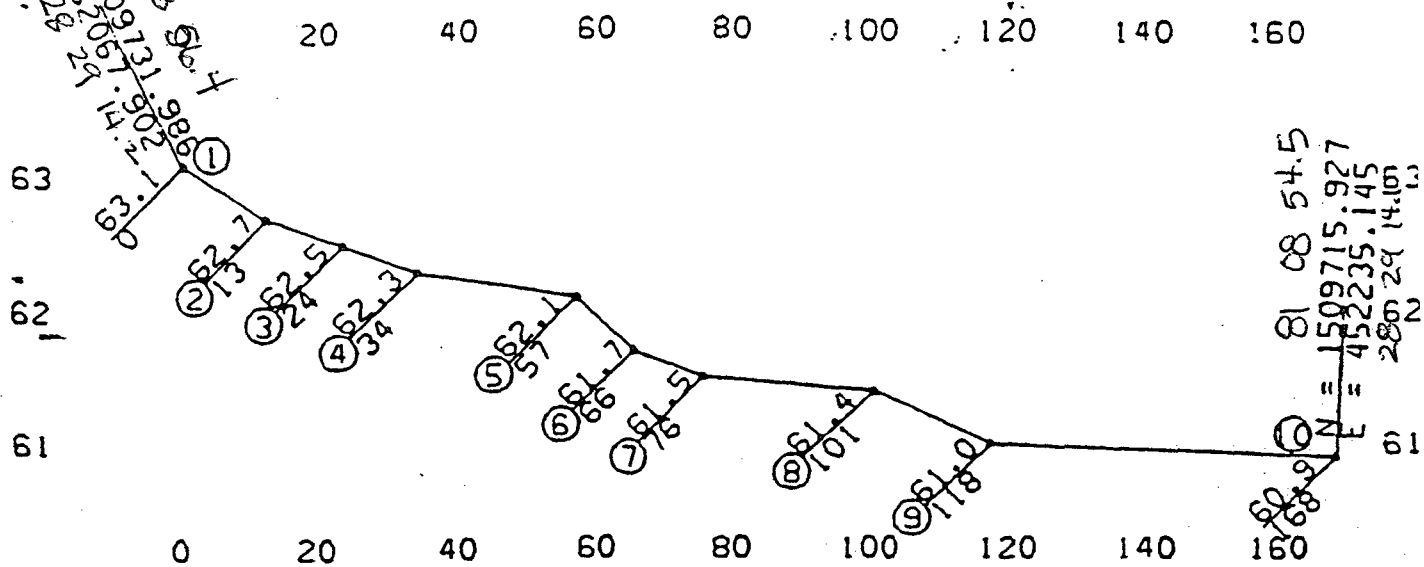
NOTE:
SECTION LOOKING WEST.

LEGEND
GROUND LEVEL — INDICATES NGVD ELEVATION (FT)
— INDICATES DISTANCE IN FEET ALONG SECTION FROM START

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MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 2
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.5

1	BEGIN T-2 AND SE COR PLOT 1 (PINE FLATWOOD ZONE)
2	WETLAND BOUNDARY AND PINE FLATWOOD ZONE-UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
3	NE COR PLOT 2 (UPPER RHYNCHOSPORA-ARISTIDA ZONE)
4	UPPER RHYNCHOSPORA-ARISTIDA ZONE-LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
5	NE COR PLOT 3 (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
6	LOWER RHYNCHOSPORA-ARISTIDA ZONE-ERIOCAULON ZONE BOUNDARY
7	SE COR PLOT 4 (ERIOCAULON ZONE)
8	RHYNCHOSPORA OPEN WATER ZONE-CYPRESS DOME ZONE/ERIOCAULON ZONE BOUNDARY
9	ERIOCAULON ZONE/CYPRESS-DOME-RHYNCHOSPORA OPEN WATER ZONE BOUNDARY
10	PLOT 5 NE COR (CYPRESS DOME ZONE-RHYNCHOSPORA OPEN WATER ZONE)
	EAST END T-2

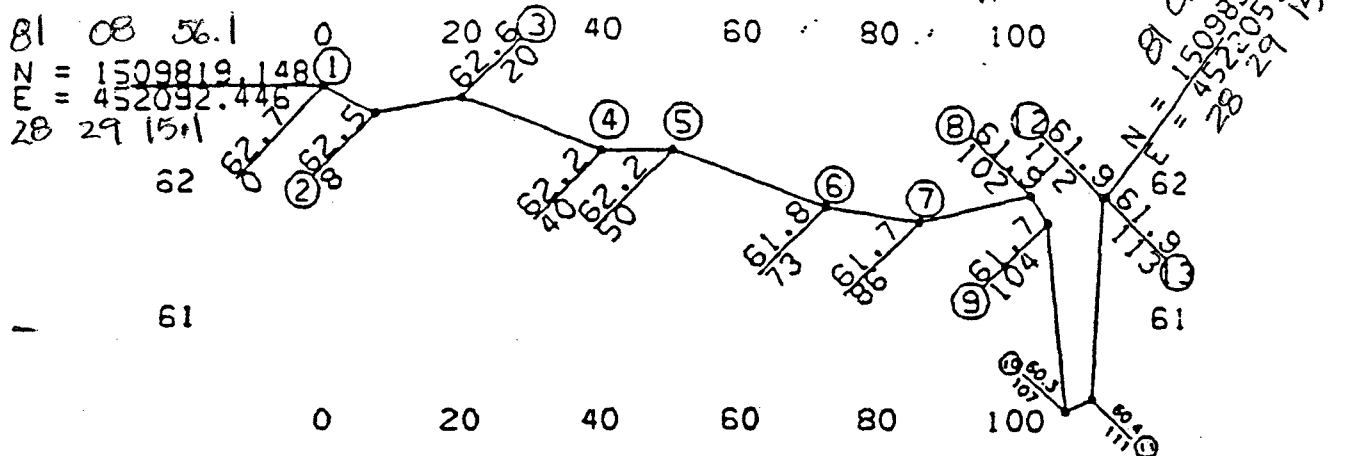
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——— INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

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BASELINE INFORMATION JULY, 1993



TRANSECT 3
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.5

1	BEGIN T-3 AND NE COR PLOT 1 (PINE FLATWOOD ZONE)
2	WETLAND BOUNDARY AND PINE FLATWOOD ZONE-UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
3	NE COR PLOT 2 (UPPER RHYNCHOSPORA-ARISTIDA ZONE)
4	UPPER RHYNCHOSPORA-ARISTIDA ZONE-LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
5	NE COR PLOT 3 (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
6	LOWER RHYNCHOSPORA-ARISTIDA ZONE-ERIOCAULON ZONE BOUNDARY
7	NE COR PLOT 4 (ERIOCAULON ZONE)
8	FORMER END POINT TRANSECT (1992)
9	TOP OF DITCH AND ERIOCAULON ZONE-RHYCHNOSPORA OPEN WATER ZONE BOUNDARY
10	DITCH BOTTOM
11	DITCH BOTTOM
12	DITCH TOP
13	NEW EAST END T-3 NE COR PLOT 5 (RHYNCHOSPORA OPEN WATER ZONE)

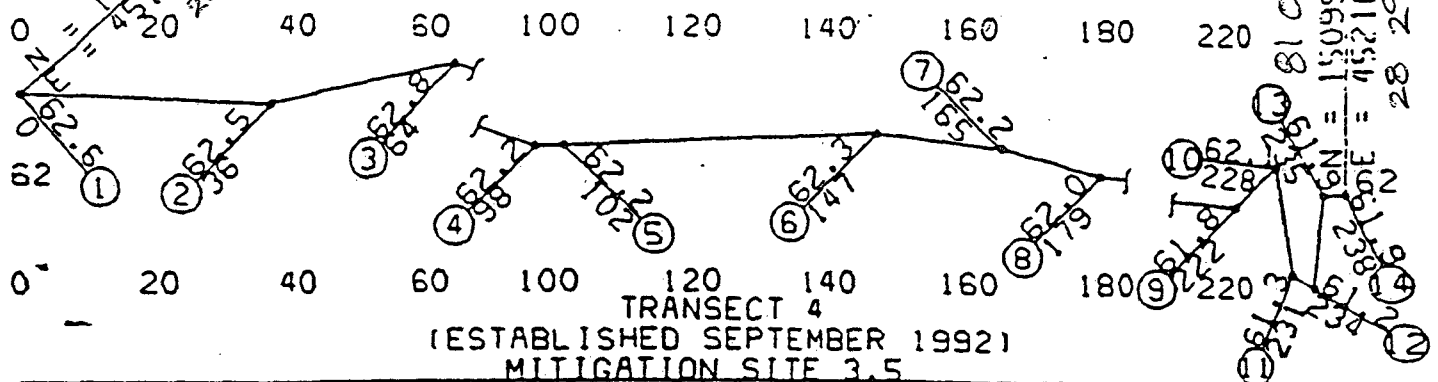
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BASELINE INFORMATION JULY, 1993



1	BEGIN T-4 (NEW ENDOPOST) AND PINE FLATWOOD ZONE/UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY AND WETLAND BOUNDARY
2	UPPER RHYNCHOSPORA-ARISTIDA ZONE-PINE FLATWOOD ZONE BOUNDARY (BEGIN SMALL UPLAND INCLUSIONS) DRY TO EAST
3	SW COR PLOT 1 (PINE FLATWOOD ZONE) AND FORMER TRANSECT ENDOPOST
4	GROUND SHOT
5	PINE FLATWOOD ZONE-UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY (END SMALL UPLAND INCLUSION, WET TO EAST)
6	SE COR PLOT 2 (UPPER RHYNCHOSPORA-ARISTIDA ZONE)
7	UPPER RHYNCHOSPORA-ARISTIDA ZONE-LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
8	NE COR PLOT 3A (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
9	PLOT 3B (FORMER 4) LOWER RHYNCHOSPORA-ARISTIDA ZONE NE COR
10	DITCH TOP AND LOWER RHYNCHOSPORA-ARISTIDA ZONE-ERIOCAULON ZONE BOUNDARY
11	DITCH BOTTOM
12	DITCH BOTTOM
13	DITCH TOP AND ERIOCAULON ZONE-LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
14	E END T-4

NOTE:

- PLOT 3B (LOWER RHYNCHOSPORA - ARISTIDA ZONE) IN AREA TYPICALLY DEFINED AS ERIOCAULON ZONE. CURRENT CONDITIONS RESTRICT ERIOCAULON ZONE TO DITCH.
- PLOT 4 (ERIOCAULON ZONE) IS LOCATED 55' NORTH OF TRANSECT 4, IN DITCH. SEE SURVEYORS NOTE.
- NO RHYNCHOSPORA - OPEN WATER ZONE, NO PLOT 5

NOTE:

SECTION LOOKING EAST.

LEGEND

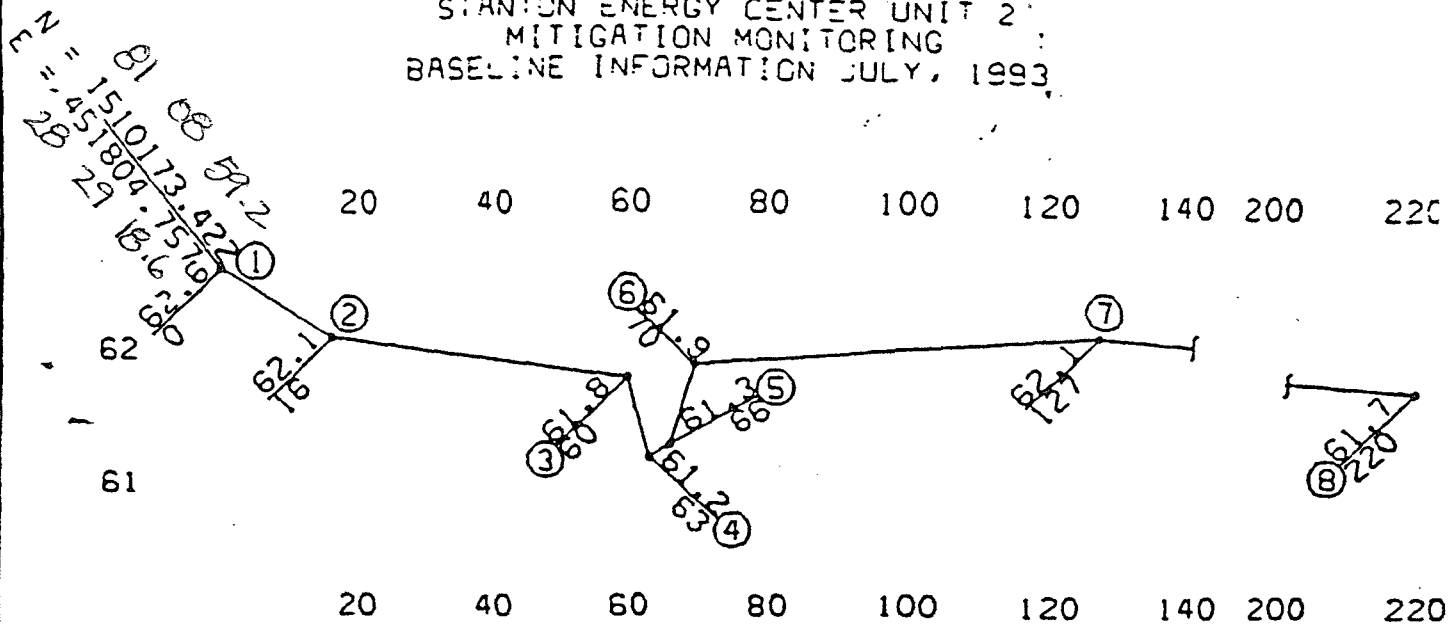
GROUND LEVEL

INDICATES NGVD ELEVATION (FT)

INDICATES DISTANCE IN FEET ALONG SECTION FROM START

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MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 5
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.5

1	BEGIN T-5 AND NE COR PLOT 1 (PINE FLATWOOD ZONE)
2	WETLAND BOUNDARY AND PINE FLATWOOD ZONE, UPPER RHYCHNOSPORA-ARISTIDA ZONE BOUNDARY
3	TOP OF DITCH
4	BOTTOM OF DITCH
5	BOTTOM OF DITCH
6	TOP OF DITCH
7	WETLAND BOUNDARY, UPPER RHYCHNOSPORA - ARISTIDA ZONE - PINE FLATWOOD ZONE BOUNDARY (BEGIN UPLAND INCLUSION)
8	PINE FLATWOOD ZONE/LOWER SERENOA-ILEX ZONE BOUNDARY/WETLAND BOUNDARY (END UPLAND INCLUSION)

NOTE:

- DITCH FILL AREA
- SMALL UPLAND INCLUSION AT THIS TRANSECT
- LOWER SERENOA - ILEX ZONE REPLACES UPPER RHYCHNOSPORA - ARISTIDA ZONE FOR PLOT 2
- PLOT 3 IS 1.5M x 2.7M DUE TO NARROW VEGETATION ZONE

NOTE:

SECTION LOOKING WEST.

LEGEND

GROUND
LEVEL

INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

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BASELINE INFORMATION JULY, 1993.



TRANSECT 5
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.5

9	GROUND SHOT - NO INFO
10	NE COR PLOT 2 (LOWER SERENOA-ILEX ZONE)
11	LOWER SERENOA-ILEX ZONE-LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
12	NE COR PLOT 3 (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
13	LOWER RHYNCHOSPORA-ARISTIDA ZONE-ERIOCAULON ZONE BOUNDARY
14	NE COR PLOT 4 (ERIOCAULON ZONE)
15	ERIOCAULON ZONE-RHYNCHOSPORA OPEN WATER ZONE BOUNDARY
16	END T-5 (NE COR PLOT 5 RHYNCHOSPORA OPEN WATER ZONE)

NOTE:

- DITCH FILL AREA
- SMALL UPLAND INCLUSION AT THIS TRANSECT
- LOWER SERENOA - ILEX ZONE REPLACES UPPER RHYNCHOSPORA - ARISTIDA ZONE FOR PLOT 2
- PLOT 3 IS 1.5M X 2.7M DUE TO NARROW VEGETATION ZONE

NOTE:

SECTION LOOKING WEST.

LEGEND

GROUND
LEVEL



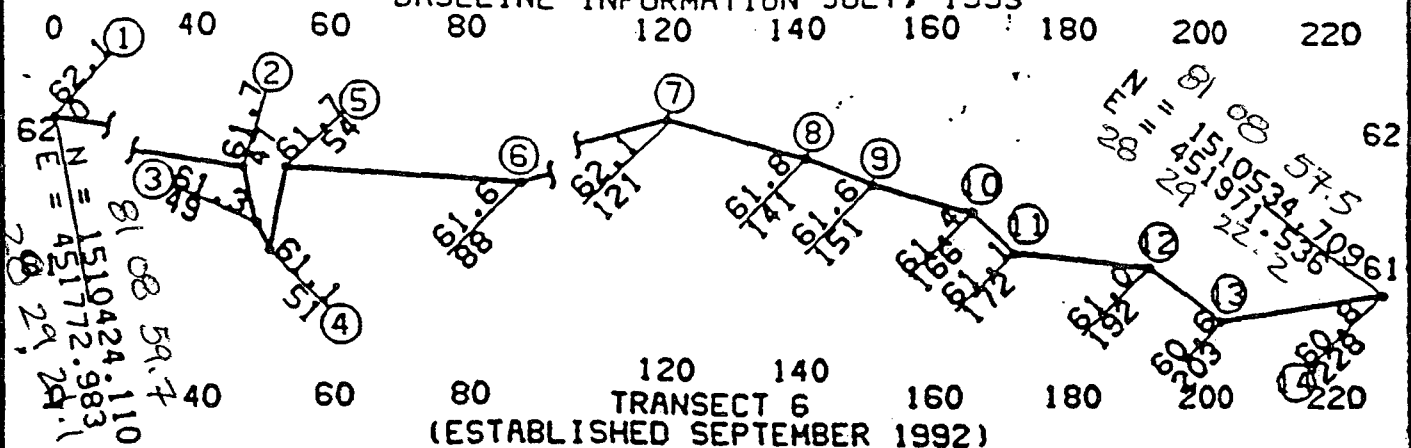
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INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

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MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 6
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.5 - EAST

1	WETLAND BOUNDARY AND PINE FLATWOOD ZONE-UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY, BEGIN TRANSECT 6
2	TOP OF DITCH
3	BOTTOM OF DITCH
4	BOTTOM OF DITCH
5	TOP OF DITCH
6	UPPER RHYNCHOSPORA-ARISTIDA ZONE/PINE FLATWOOD ZONE BOUNDARY, BEGIN UPLAND INCLUSION
7	NE COR PLOT 1 (PINE FLATWOOD ZONE)
8	PINE FLATWOOD ZONE-UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY AND END UPLAND INCLUSION AND NW PLOT 2 (UPPER RHYNCHOSPORA-ARISTIDA ZONE)
9	UPPER RHYNCHOSPORA-ARISTIDA ZONE-LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
10	NE COR PLOT 3 (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
11	LOWER RHYNCHOSPORA-ARISTIDA ZONE-ERIOCAULON ZONE BOUNDARY AND NW COR PLOT 4 (ERIOCAULON ZONE)
12	ERIOCAULON ZONE/CYPRESS DOME-RHYNCHOSPORA OPEN WATER ZONE BOUNDARY
13	NE COR PLOT 5 (CYPRESS DOME-RHYNCHOSPORA OPEN WATER ZONE)
14	END TRANSECT 6

NOTE:

- SMALL UPLAND INCLUSION IN THIS TRANSECT

NOTE:

SECTION LOOKING NORTH.

LEGEND

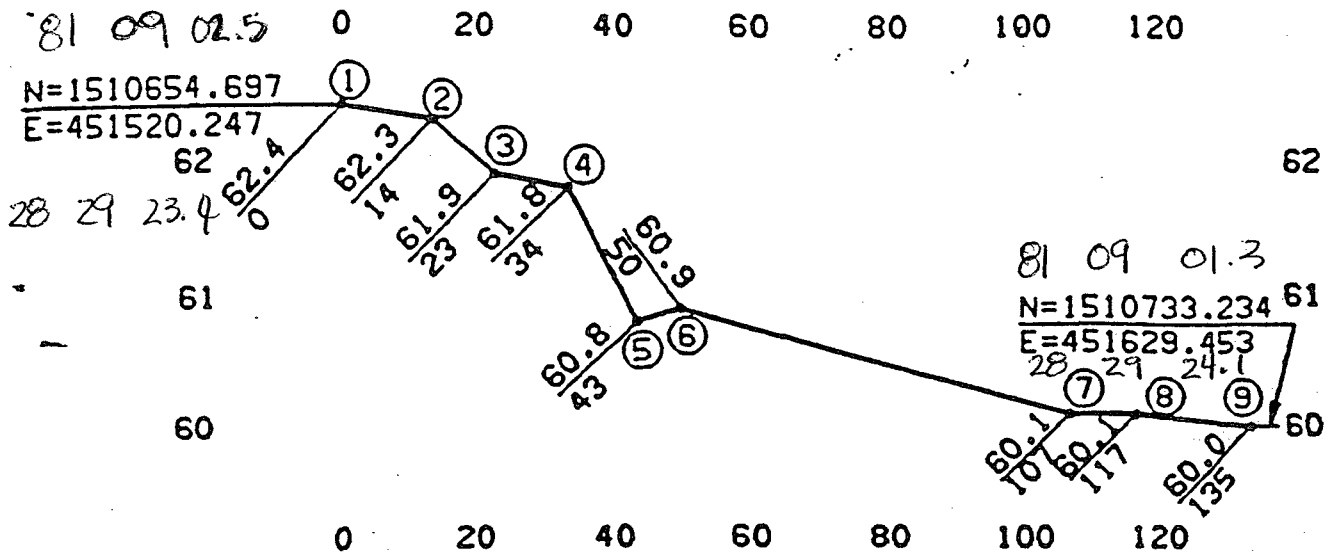
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INDICATES NGVD ELEVATION (FT)

INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

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ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 7
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.5

1	BEGIN TRANSECT 7 & NE COR PLOT 1 (PINE FLATWOODS ZONE)
2	WETLAND BOUNDARY & PINE FLATWOODS ZONE/UPPER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY
3	NE COR PLOT 2 (UPPER RHYNCHOSPORA - ARISTIDA ZONE)
4	NE COR PLOT 3A (UPPER RHYNCHOSPORA - ARISTIDA ZONE)
5	UPPER RHYNCHOSPORA - ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY
6	NE COR PLOT 3B (ERIOCAULON ZONE)
7	NE COR PLOT 4 (ERIOCAULON ZONE)
8	ERIOCAULON ZONE / CYPRESS DOME - RHYNCHOSPORA - OPEN WATER ZONE BOUNDARY
9	END TRANSECT 7 NE COR PLOT 5 (CYPRESS DOME - RHYNCHOSPORA - OPEN WATER ZONE)

NOTE: NO LOWER RHYNCHOSPORA - ARISTIDA ZONE

LEGEND

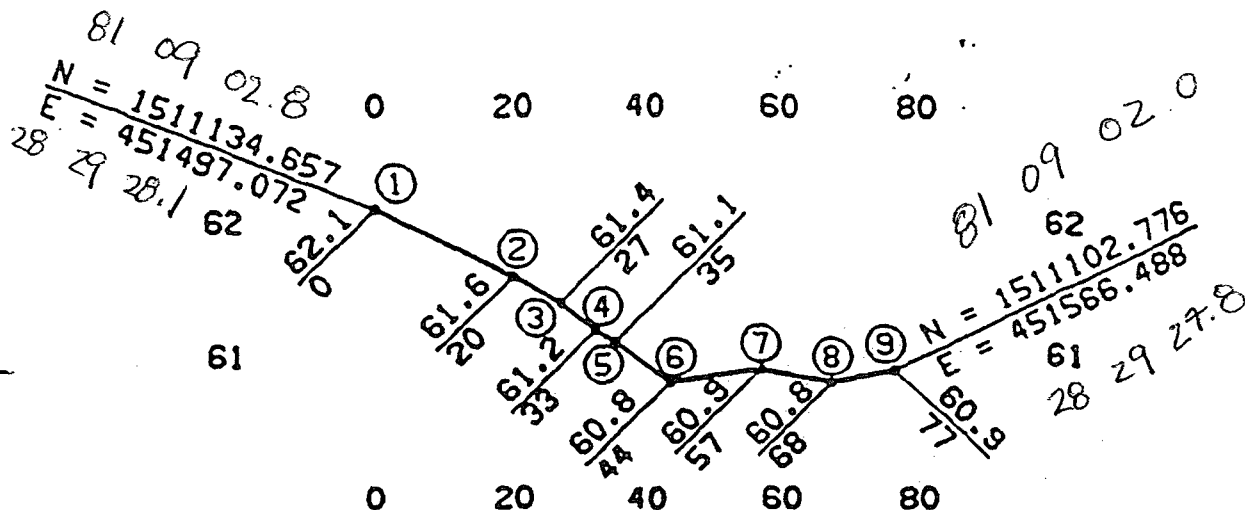
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GROUND LEVEL ——— INDICATES NGVD ELEVATION (FT)
——— INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

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STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 8
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.5

1	WEST END TRANSECT 8 NE COR PLOT 1 (PINE FLATWOODS ZONE) PINE FLATWOODS ZONE/UPPER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY, WETLAND BOUNDARY
2	NE COR PLOT 2 (UPPER RHYNCHOSPORA - ARISTIDA ZONE)
3	UPPER RHYNCHOSPORA - ARISTIDA ZONE/LOWER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY
4	NE COR PLOT 3 (LOWER RHYNCHOSPORA - ARISTIDA ZONE)
5	LOWER RHYNCHOSPORA - ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY
6	NE COR PLOT 4 (ERIOCAULON ZONE)
7	ERIOCAULON ZONE/CYPRESS DOME - RHYNCHOSPORA - OPEN WATER ZONE BOUNDARY
8	NE COR PLOT 5 (CYPRESS DOME - RHYNCHOSPORA - OPEN WATER ZONE)
9	END TRANSECT 8

NOTE: DITCH FILL AREA

NOTE:
SECTION LOOKING EAST.

LEGEND

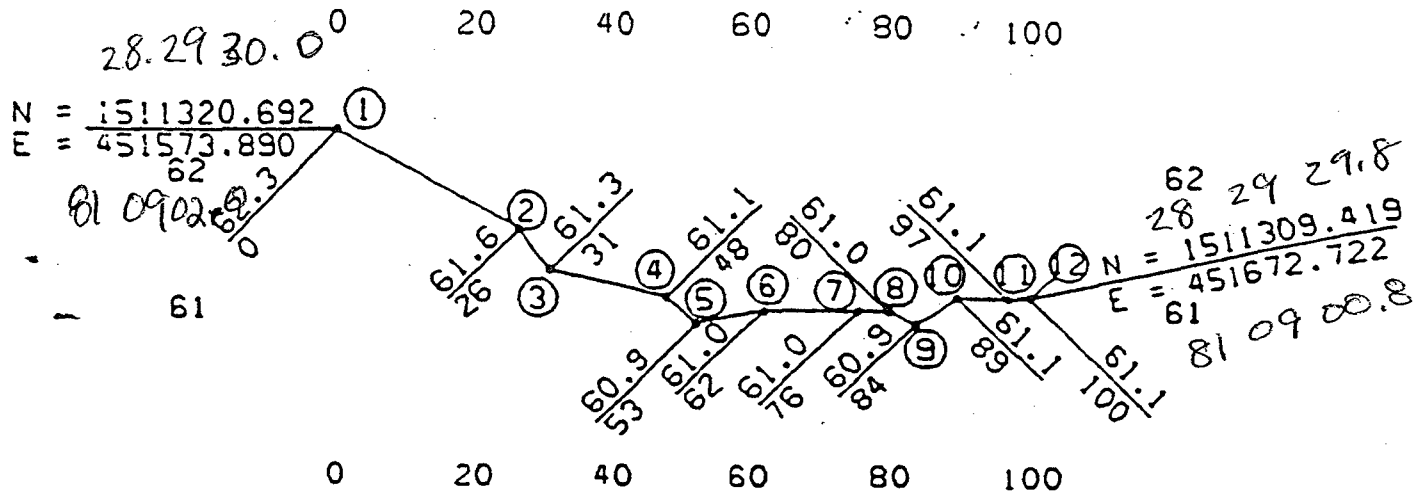
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INDICATES DISTANCE IN FEET
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MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 9
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.5

1	BEGIN TRANSECT 9 NE COR PLOT 1 (PINE FLATWOODS ZONE) & WETLAND BOUNDARY & PINE FLATWOODS ZONE/UPPER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY
2	NE COR PLOT 2 (UPPER RHYNCHOSPORA - ARISTIDA ZONE) & UPPER RHYNCHOSPORA - ARISTIDA ZONE/LOWER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY
3	NE COR PLOT 3 (LOWER RHYNCHOSPORA - ARISTIDA ZONE)
4	LOWER RHYNCHOSPORA - ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY
5	NE COR PLOT 4 (ERIOCAULON ZONE)
6	ERIOCAULON ZONE/CYPRESS DOME - RHYNCHOSPORA - OPEN WATER ZONE BOUNDARY
7	NE COR PLOT 5 (CYPRESS DOME - RHYNCHOSPORA - OPEN WATER ZONE)
8	GROUND IN CYPRESS AREA, NO PLOT
9	GROUND IN CYPRESS AREA, NO PLOT
10	GROUND IN CYPRESS AREA, NO PLOT
11	GROUND IN CYPRESS AREA, NO PLOT
12	END TRANSECT 9

NOTE: DITCH FILL AREA

NOTE:
SECTION LOOKING EAST.

LEGEND

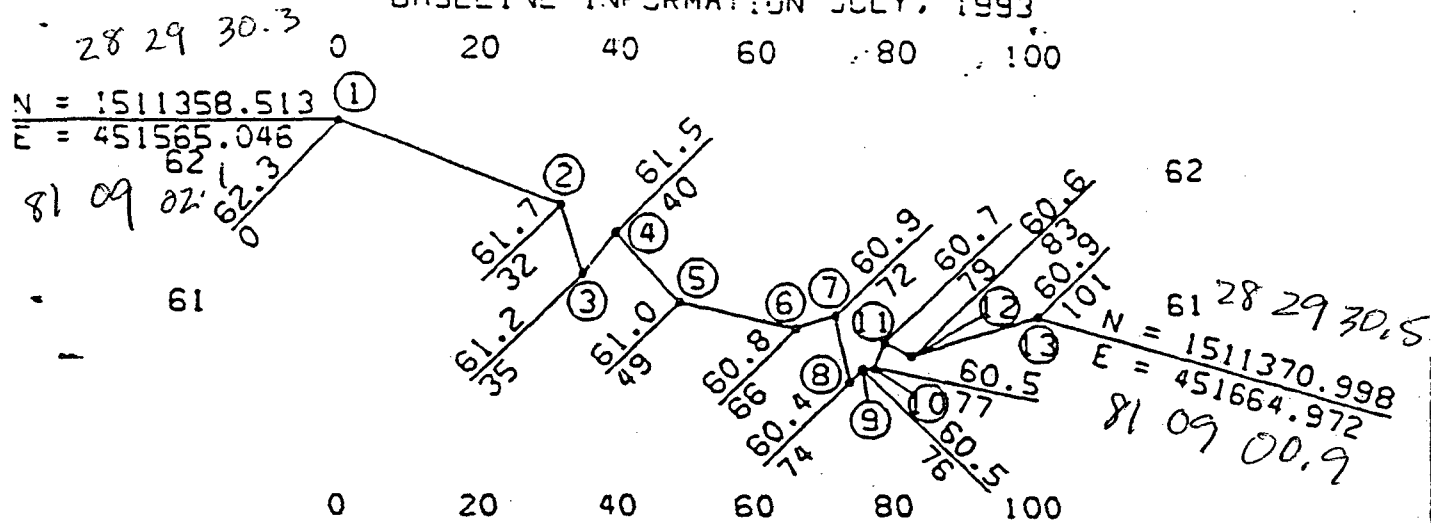
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INDICATES DISTANCE IN FEET
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BASELINE INFORMATION JULY, 1993



1	BEGIN TRANSECT 10 & PINE FLATWOODS ZONE/UPPER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY & WETLAND BOUNDARY & NE COR PLOT 1
2	NE COR PLOT 2 (UPPER RHYNCHOSPORA - ARISTIDA ZONE)
3	UPPER RHYNCHOSPORA - ARISTIDA ZONE/LOWER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY
4	NE COR PLOT 3 (LOWER RHYNCHOSPORA - ARISTIDA ZONE)
5	LOWER RHYNCHOSPORA - ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY
6	NE COR PLOT 4 (ERIOCAULON ZONE)
7	TOP OF DITCH & ERIOCAULON ZONE/RHYNCHOSPORA - OPEN WATER ZONE BOUNDARY
8	BOTTOM DITCH
9	NW COR PLOT 5 (RHYNCHOSPORA - OPEN WATER ZONE)
10	BOTTOM OF DITCH
11	TOP OF DITCH
12	NE COR PLOT 5 (RHYNCHOSPORA - OPEN WATER ZONE)
13	EAST END TRANSECT 10

NOTE: DITCH FILL AREA

NOTE:
SECTION LOOKING EAST.

LEGEND

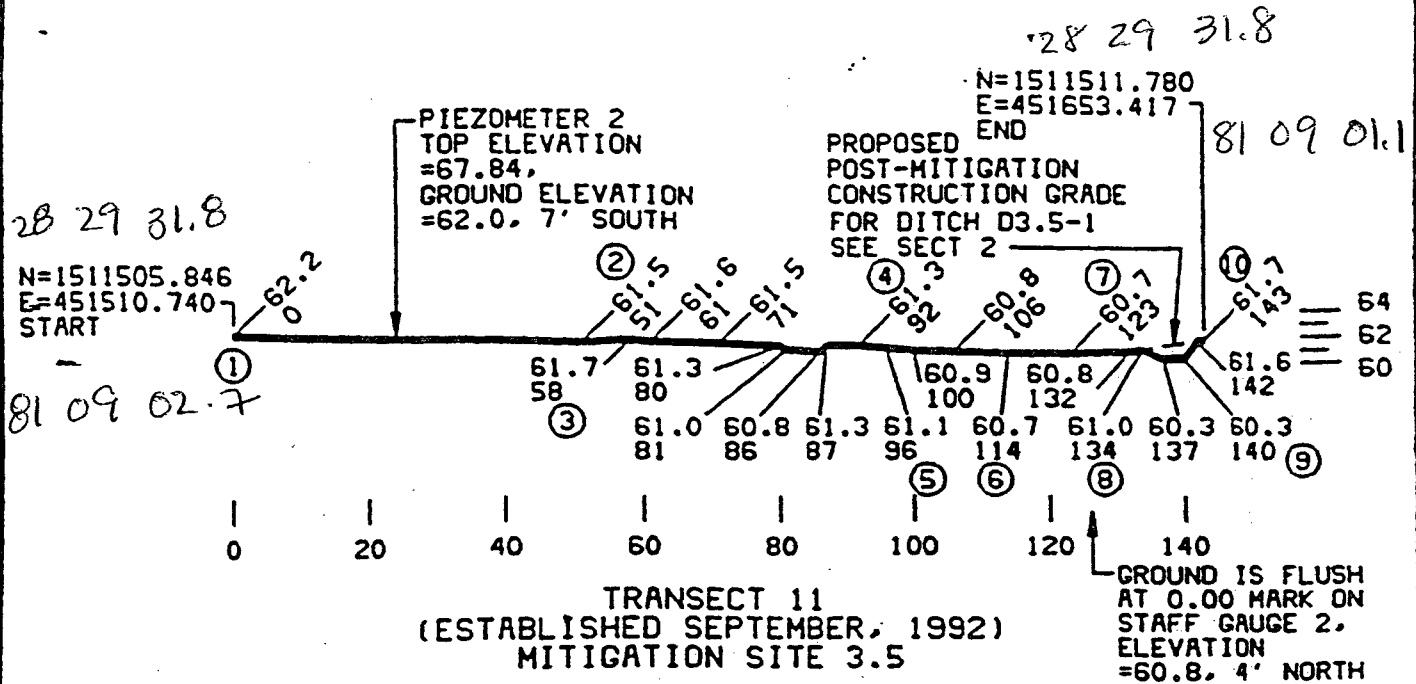
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ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION APRIL, 1993



1	PLOT 1 NW CORNER (PINE FLATWOOD ZONE)
2	BEGIN TRANSECT 11
3	PLOT 2 NW CORNER (UPPER RHYNCHOSPORA-ARISTIDA ZONE) PINE FLATWOOD ZONE/UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY WETLAND BOUNDARY
4	UPPER RHYNCHOSPORA-ARISTIDA ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
5	PLOT 3 NW CORNER (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
6	LOWER RHYNCHOSPORA-ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY
7	PLOT 4 NW CORNER (ERIOCAULON ZONE)
8	ERIOCAULON ZONE/RHYNCHOSPORA-OPEN WATER ZONE BOUNDARY BEGIN DITCH. PLOT 5 NW CORNER (RHYNCHOSPORA-OPEN WATER ZONE)
9	BASE OF DITCH. RHYNCHOSPORA-OPEN WATER ZONE/ERIOCAULON ZONE BOUNDARY
10	END TRANSECT 11

NOTE:
ALL SECTIONS LOOKING NORTH.

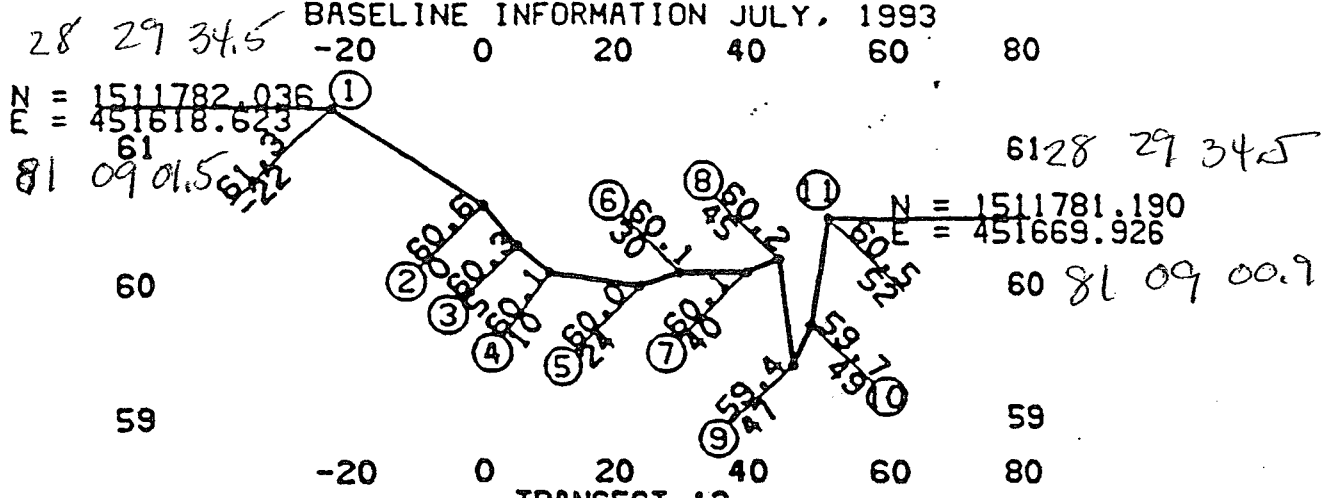
LEGEND

GROUND LEVEL ——— INDICATES NGVD ELEVATION (FT)
——— INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER		DRAWN		MRR		1		05-14-93		REVISED PER FDER COMMENTS									
CHECKED		DATE		NO		0		04-05-93		INITIAL ISSUE									
				NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP		FLM			
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2										PROJECT				DRAWING NUMBER				REV 1	
ELEVATION TRANSECTS AT PIEZOMETERS AND STAFF GAUGES										CODE				AREA					

5801 FOR 300 108
R01SL002: R2 1=30
5-13-93 9:05 A

ORLANDO UTILITIES COMMISSION
 STANTON ENERGY CENTER UNIT 2
 MITIGATION MONITORING
 BASELINE INFORMATION JULY, 1993



TRANSECT 12
 (ESTABLISHED SEPTEMBER 1992)
 MITIGATION SITE 3.5

1	FORMER REBAR T12 WEST END, NE COR PLOT 1 (PINE FLATWOOD ZONE)
2	BEGIN TRANSECT 12 AND WETLAND BOUNDARY AND PINE FLATWOOD ZONE-UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
3	LOWER RHYNCHOSPORA-ARISTIDA ZONE/UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY AND NE COR PLOT 2 (UPPER RHYNCHOSPORA-ARISTIDA ZONE)
4	NE COR PLOT 3 (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
5	LOWER RHYNCHOSPORA-ARISTIDA ZONE-ERIOCAULON ZONE BOUNDARY
6	NE COR PLOT 4 (ERIOCAULON ZONE)
7	ELEVATION SHOT, NO PLOT
8	ERIOCAULON ZONE/RHYNCHOSPORA OPEN WATER ZONE BOUNDARY AND TOP OF DITCH
9	BOTTOM OF DITCH
10	NE COR PLOT 5 (RHYNCHOSPORA OPEN WATER ZONE) AND BOTTOM OF DITCH
11	EAST END TRANSECT 12 AND TOP OF DITCH

NOTE:
 - DITCH FILL AREA

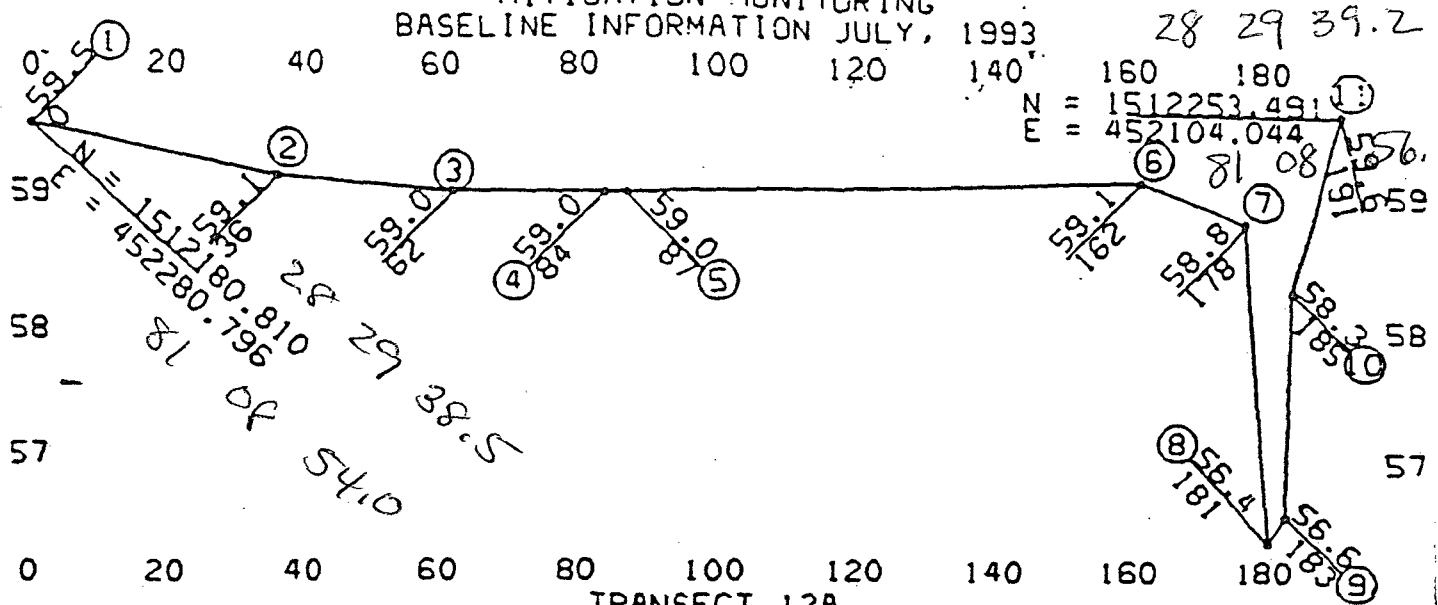
NOTE:
 SECTION LOOKING NORTH.

LEGEND
 GROUND LEVEL ——— INDICATES NGVD ELEVATION (FT)
 ——— INDICATES DISTANCE IN FEET ALONG SECTION FROM START

ENGINEER		DRAWN JHS		07-28-93 INITIAL ISSUE								
CHECKED		DATE		NO	DATE	REVISIONS AND RECORD OF ISSUE		BY	CHK	APP	FLM	
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2						PROJECT			DRAWING NUMBER			REV 0
ELEVATION TRANSECTS						CODE						
						AREA						

JWS:mc
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 8-31-93 7:31 A

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 12A
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.5

1	BEGIN TRANSECT 12A, GROUND AT REBAR, NE COR PLOT 1 (PINE FLATWOOD ZONE)
2	WETLAND BOUNDARY, PINE FLATWOOD ZONE/UPPER RHYNCHOSPORA-ARISTIDA ZONE
	BOUNDARY
3	NE COR PLOT 2 (UPPER RHYNCHOSPORA-ARISTIDA ZONE)
4	UPPER RHYNCHOSPORA-ARISTIDA ZONE-LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
5	NE COR PLOT 3 (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
6	NE COR PLOT 3B (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
7	NE COR PLOT 4 (ERIOCAULON ZONE) AND TOP OF DITCH AND LOWER RHYNCHOSPORA-ARISTIDA ZONE-ERIOCAULON ZONE BOUNDARY
8	DITCH BOTTOM
9	DITCH BOTTOM
10	TOP OF DITCH AND ERIOCAULON ZONE BOUNDARY
11	REBAR WEST END T12A, WETLAND BOUNDARY

NOTE:
- DRAWING VIEW IS SOUTH. 0 POINT ON T-12A IS ON EAST END OF TRANSECT
- PLOT 3B (LOWER RHYNCHOSPORA-ARISTIDA ZONE) IS LOCATED WHERE ERIOCAULON ZONE IS EXPECTED AFTER ENHANCEMENT
- DITCH FILL AREA

NOTE:
SECTION LOOKING EAST.

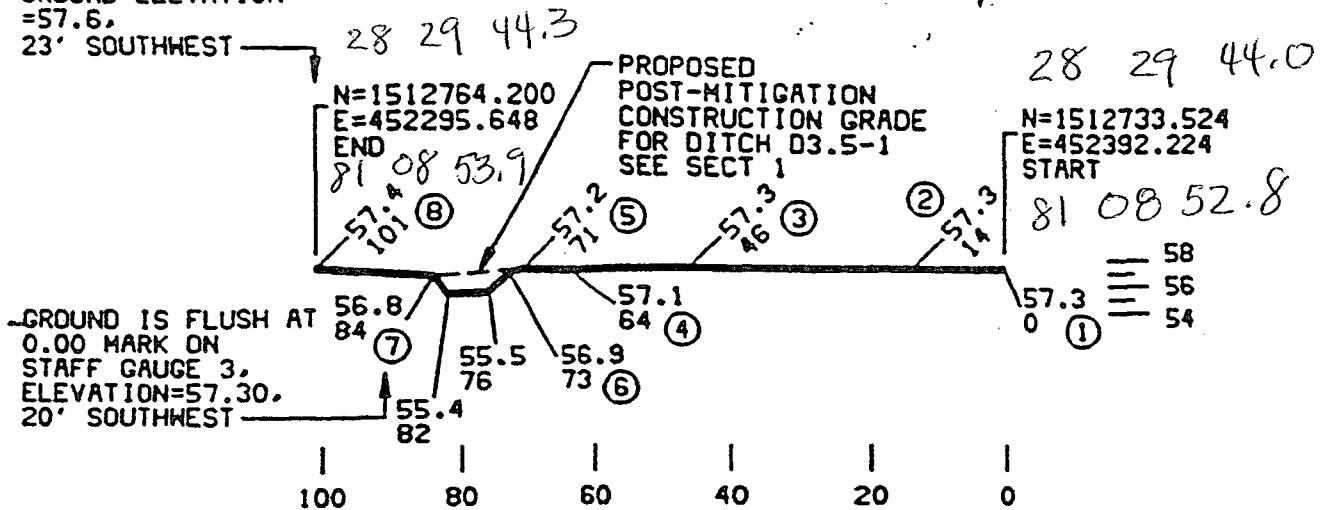
LEGEND
GROUND LEVEL ——— INDICATES NGVD ELEVATION (FT)
——— INDICATES DISTANCE IN FEET ALONG SECTION FROM START

ENGINEER		DRAWN		JWS		07-28-93		INITIAL ISSUE											
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP		FLM			
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2										PROJECT				DRAWING NUMBER				REV 0	
ELEVATION TRANSECTS										CODE				AREA					

28-93 7:25 A

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION APRIL, 1993

PIEZOMETER 5
TOP ELEVATION
=61.45,
GROUND ELEVATION
=57.6,
23' SOUTHWEST



TRANSECT 12B
(ESTABLISHED SEPTEMBER, 1992)
MITIGATION SITE 3.5

1	BEGIN TRANSECT 12B
2	PLOT 1 NW CORNER (PINE FLATWOOD ZONE)
3	PLOT 2 NW CORNER (PINE FLATWOOD ZONE); PINE FLATWOOD ZONE/UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
4	PLOT 3 NW CORNER (UPPER RHYNCHOSPORA-ARISTIDA ZONE)
5	PLOT 4 NW CORNER (UPPER RHYNCHOSPORA-ARISTIDA ZONE)
6	DITCH TOP ELEVATION; UPPER RHYNCHOSPORA-ARISTIDA ZONE/ RHYNCHOSPORA-OPEN WATER ZONE BOUNDARY
7	DITCH TOP ELEVATION; RHYNCHOSPORA-OPEN WATER ZONE BOUNDARY; PLOT 5 NW CORNER (PHYNCHOSPORA-OPEN WATER ZONE)
8	END TRANSECT 12B

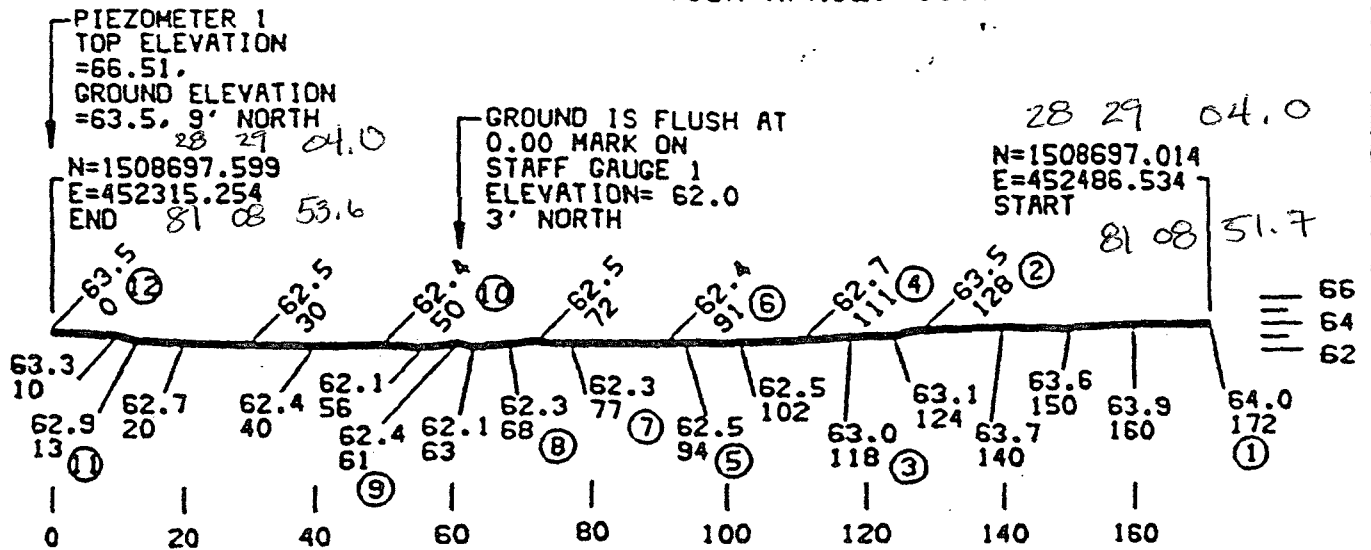
NOTE:
ALL SECTIONS LOOKING NORTH.

LEGEND
GROUND LEVEL
INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET ALONG SECTION FROM START

ENGINEER		DRAWN		MRR		1 05-14-93		REVISED PER FDER COMMENTS							
CHECKED		DATE		NO		0 04-05-93		INITIAL ISSUE							
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER -- UNIT 2						PROJECT						DRAWING NUMBER		REV 1	
ELEVATION TRANSECTS AT PIEZOMETERS AND STAFF GAUGES						CODE									
						AREA									

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A01SL002 A2 1=30
5-13-93 9:35 A

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2.
MITIGATION MONITORING
BASELINE INFORMATION APRIL, 1993



TRANSECT 28
(ESTABLISHED MARCH, 1993)
MITIGATION SITE 3.5

1	BEGIN TRANSECT 28, PLOT 1 NW CORNER (PINE FLATWOOD)
2	PINE FLATWOOD ZONE/UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY, WETLANDS BOUNDARY
3	PLOT 2 NW CORNER (UPPER RHYNCHOSPORA-ARISTIDA ZONE)
4	UPPER RHYNCHOSPORA-ARISTIDA ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
5	PLOT 3 NW CORNER (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
6	LOWER RHYNCHOSPORA-ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY
7	PLOT 4 NW CORNER (ERIOCAULON ZONE)
8	DITCH TOP, ERIOCAULON ZONE/RHYNCHOSPORA-OPEN WATER ZONE BOUNDARY
9	PLOT 5 NW CORNER (RHYNCHOSPORA-OPEN WATER ZONE), RHYNCHOSPORA-OPEN WATER BOUNDARY
10	DITCH TOP
11	WETLAND BOUNDARY
12	END TRANSECT 28

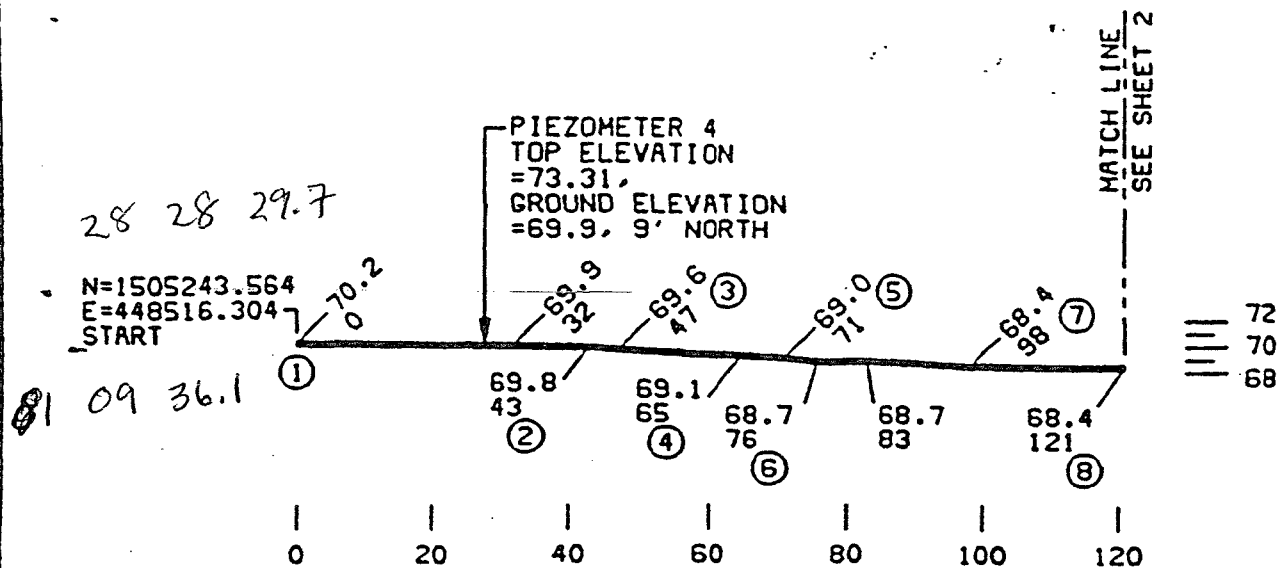
NOTE:
ALL SECTIONS LOOKING NORTH.

LEGEND
GROUND LEVEL ——— INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER		DRAWN		MRR		1 05-14-93		REVISED PER FDER COMMENTS							
CHECKED		DATE				0 04-05-93		INITIAL ISSUE							
						NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK APP FLM	
ORLANDO UTILITIES COMMISSION										PROJECT		DRAWING NUMBER		REV	
STANTON ENERGY CENTER - UNIT 2														1	
ELEVATION TRANSECTS AT PIEZOMETERS AND STAFF GAUGES										CODE					
										AREA					

5-13-93 9:41 A

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION APRIL, 1993



TRANSECT 14
(ESTABLISHED SEPTEMBER, 1992)
MITIGATION SITE 3.6

1	PLOT 1 NW CORNER (PINE FLATWOOD ZONE)
2	BEGIN TRANSECT 14
3	PINE FLATWOOD ZONE/UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
4	PLOT 2 NW CORNER (Upper Rhynchospora-Aristida Zone)
5	UPPER RHYNCHOSPORA-ARISTIDA ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
6	PLOT 3 NW CORNER (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
7	LOWER RHYNCHOSPORA-ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY
8	PLOT 4 NW CORNER (ERIOCAULON ZONE)

NOTE:
ALL SECTIONS LOOKING NORTH.

LEGEND

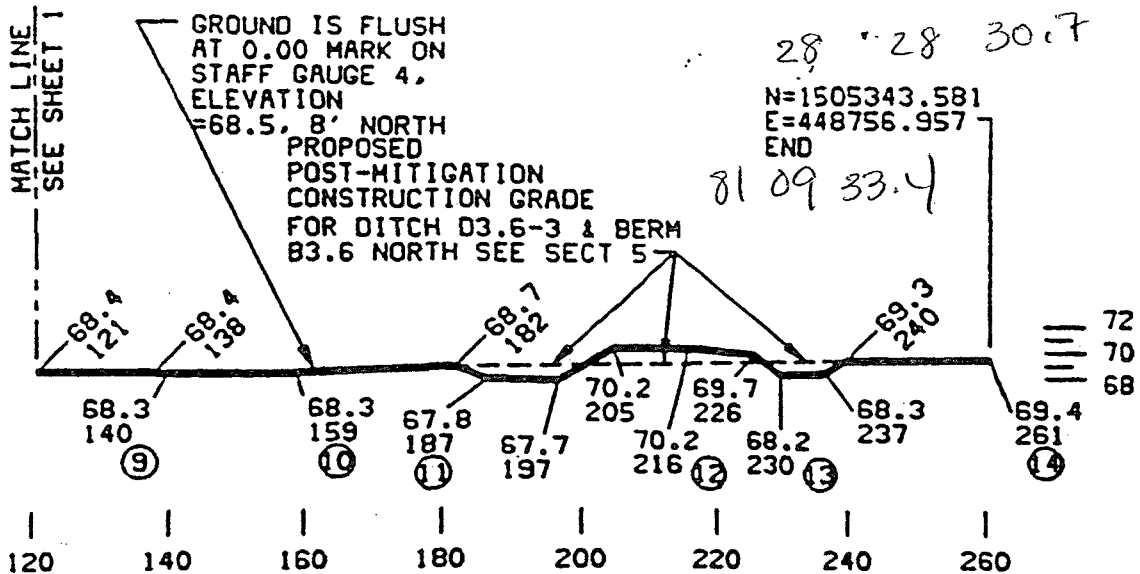
GROUND LEVEL

INDICATES NGVD ELEVATION (FT)

INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER		DRAWN		MRR		2		09-07-94		CD			
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY			
1		05-14-93		0		04-05-93		REVISED PER FDER COMMENTS		INITIAL ISSUE			
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2				PROJECT				DRAWING NUMBER				REV 1	
ELEVATION TRANSECTS AT PIEZOMETERS AND STAFF GAUGES				CODE				AREA				SHEET 1 OF 2	

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION APRIL, 1993:



TRANSECT 14
(ESTABLISHED SEPTEMBER, 1992)
MITIGATION SITE 3.6

9	ERIOCAULON ZONE/RHYNCHOSPORA-OPEN WATER ZONE BOUNDARY
10	PLOT 5 NW CORNER (RHYNCHOSPORA-OPEN WATER ZONE)
11	BASE OF DITCH
12	TRAM BED
13	BASE OF DITCH
14	WETLAND BOUNDARY AND END TRANSECT 14

NOTE:
ALL SECTIONS LOOKING NORTH.

LEGEND

GROUND LEVEL ——— INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER		DRAWN		MRR		1 05-14-93		REVISED PER FDER COMMENTS							
CHECKED		DATE				0 04-05-93		INITIAL ISSUE							
						NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK APP FLH	
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER -- UNIT 2										PROJECT		DRAWING NUMBER		REV 1	
ELEVATION TRANSECTS AT PIEZOMETERS AND STAFF GAUGES										CODE		AREA		SHEET 2 OF 2	

Map of Transect 15 showing bird sightings. The map is a line graph with two axes: a vertical axis for bird count (68, 69, 70) and a horizontal axis for Transect distance (0 to 120). A line connects 15 numbered points. Handwritten notes include 'N = 1505224.811', 'E = 448701.723', and '81 09 34.1'.

Point Number	Transect Distance (approx.)	Bird Count (approx.)
1	5	69.5
2	15	69.0
3	25	69.5
4	35	68.5
5	45	69.0
6	55	68.5
7	65	68.5
8	75	68.5
9	85	68.5
10	105	68.5
11	110	68.0
12	115	68.0
13	115	68.5
14	120	68.5
15	125	68.5

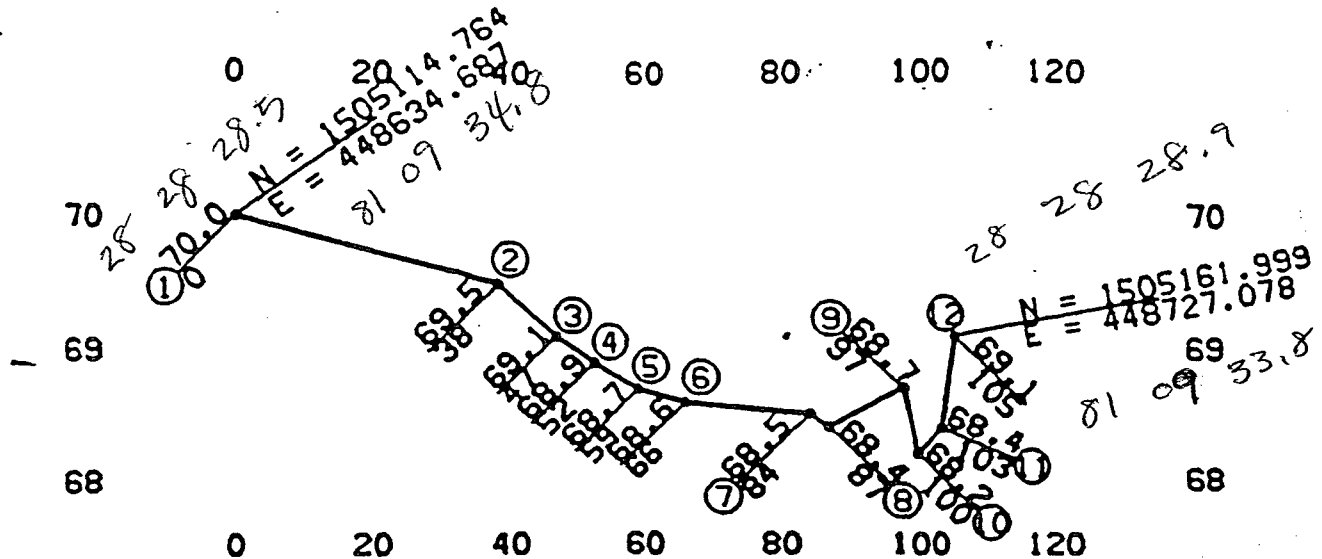
NOTE:
SECTION LOOKING NORTH.

GROUND
LEVEL -

- INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

QSA- [REDACTED] 12-
ADTSL002 HZ 1:30
B-30-93 4:14 P

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 16
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.6 - EAST

1	BEGIN TRANSECT 16 AND NE COR PLOT 1 (PINE FLATWOOD ZONE)
2	WETLAND BOUNDARY AND PINE FLATWOOD ZONE/UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
3	NE COR PLOT 2 (UPPER RHYNCHOSPORA-ARISTIDA ZONE)
4	UPPER RHYNCHOSPORA-ARISTIDA ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
5	NE COR PLOT 3 (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
6	LOWER RHYNCHOSPORA-ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY
7	NE COR PLOT 4 (ERIOCAULON ZONE)
8	RHYNCHOSPORA OPEN WATER ZONE/ERIOCAULON ZONE BOUNDARY
9	TOP OF DITCH
10	BOTTOM OF DITCH
11	BOTTOM OF DITCH
12	TOP OF DITCH, NE COR PLOT 5 (RHYNCHOSPORA OPEN WATER ZONE), EAST END OF
	TRANSECT 16

NOTE:
SECTION LOOKING NORTH.

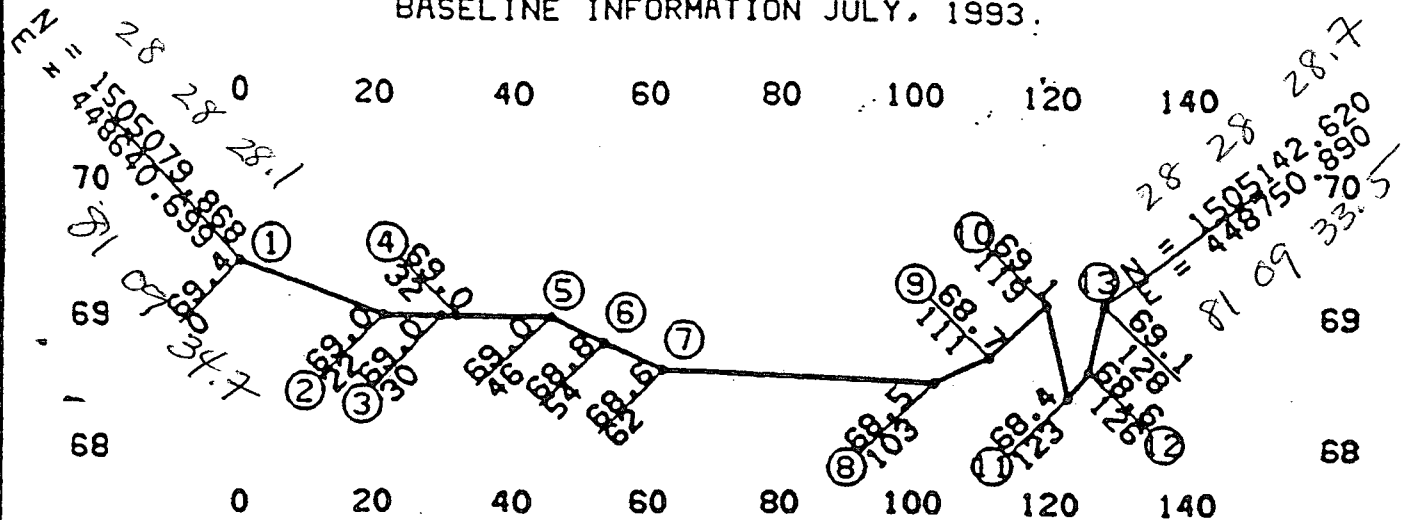
LEGEND

GROUND LEVEL ——— INDICATES NGVD ELEVATION (FT)
——— INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER		DRAWN		JWS		07-28-93		INITIAL ISSUE											
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP		FLM			
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2										PROJECT				DRAWING NUMBER				REV 0	
ELEVATION TRANSECTS										CODE				AREA					

B-30-93 3:29 P

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993.



TRANSECT 17
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.6 - EAST

1	NE COR PLOT 1 (PINE FLATWOOD ZONE) AND BEGIN T-17
2	PINE FLATWOOD ZONE-UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY AND WETLAND BOUNDARY
3	NE COR PLOT 2 (UPPER RHYNCHOSPORA-ARISTIDA ZONE)
4	UPPER RHYNCHOSPORA-ARISTIDA ZONE-LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
5	NE COR PLOT 3 (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
6	LOWER RHYNCHOSPORA-ARISTIDA ZONE/ERIOCAULON ZONE
7	NE COR PLOT 4 (ERIOCAULON ZONE)
8	ERIOCAULON ZONE/RHYNCHOSPORA OPEN WATER ZONE BOUNDARY
9	NE COR PLOT 5 (RHYNCHOSPORA OPEN WATER ZONE)
10	TOP OF DITCH
11	BOTTOM OF DITCH
12	BOTTOM OF DITCH
13	EAST END TRANSECT 17 AND TOP OF DITCH

NOTE:
SECTION LOOKING NORTH.

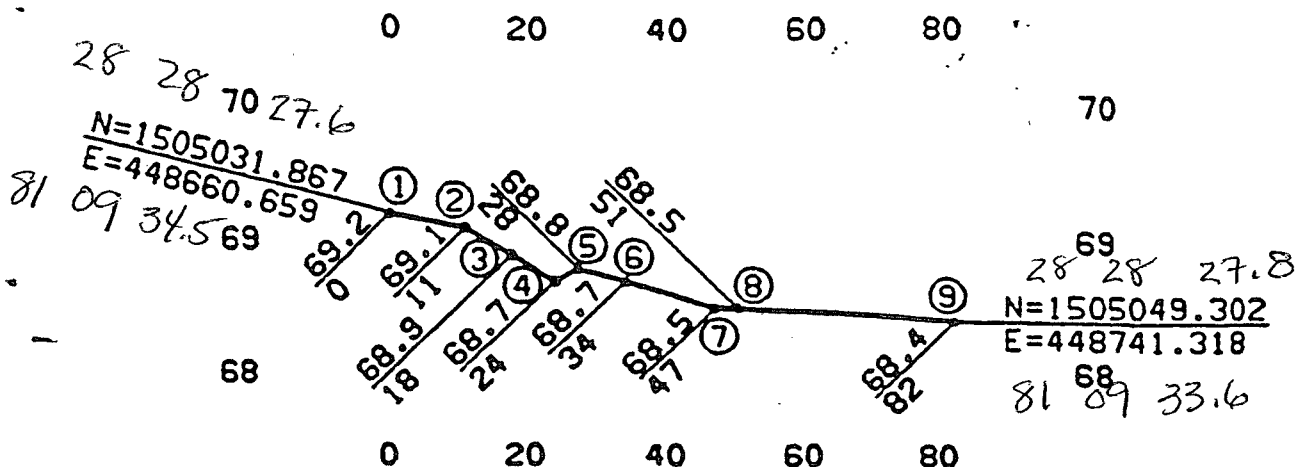
LEGEND

GROUND LEVEL ——— INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER		DRAWN		JHS		07-28-93		INITIAL ISSUE							
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP	
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2										PROJECT		DRAWING NUMBER		REV 0	
ELEVATION TRANSECTS										CODE					
										AREA					

SLV A2
8-30-93 3:22 P

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993.



TRANSECT 18
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.6 - EAST

1	BEGIN TRANSECT 18 & NE COR PLOT 1 (PINE FLATWOODS ZONE)
2	PINE FLATWOOD ZONE-UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
3	WETLAND BOUNDARY AND NE COR PLOT 2 (UPPER RHYNCHOSPORA-ARISTIDA ZONE) AND UPPER RHYNCHOSPORA - ARISTIDA ZONE/LOWER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY
4	NE COR PLOT 3 (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
5	LOWER RHYNCHOSPORA - ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY
6	SURVEYED POINT
7	NE COR PLOT 4 (ERIOCAULON ZONE)
8	ERIOCAULON ZONE/CYPRESS DOME-RHYNCHOSPORA OPEN WATER ZONE BOUNDARY
9	EAST END T-18 AND NW COR PLOT 5 (CYPRESS DOME-RHYNCHOSPORA OPEN WATER ZONE)

NOTE:
SECTION LOOKING NORTH.

LEGEND

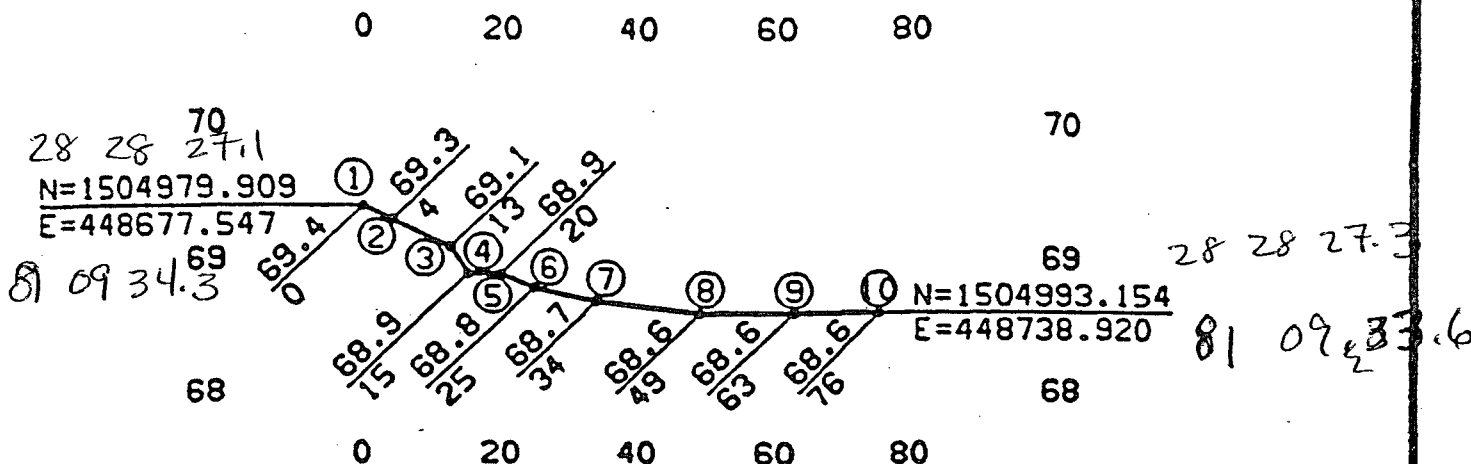
GROUND
LEVEL

INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER		DRAWN		JHS		007-28-93		INITIAL ISSUE											
CHECKED		DATE				NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP			
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2										PROJECT				DRAWING NUMBER				REV 0	
ELEVATION TRANSECTS										CODE									
										AREA									

BOS. JR
NOTSL002-A2
8-30-93 3:11 P

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 19
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.6 - EAST

1	BEGIN TRANSECT 19 & NE COR PLOT 1 (PINE FLATWOODS ZONE)
2	WETLAND BOUNDARY, PINE FLATWOODS ZONE/UPPER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY
3	NE COR PLOT 2 (UPPER RHYNCHOSPORA - ARISTIDA ZONE)
4	UPPER RHYNCHOSPORA - ARISTIDA ZONE/LOWER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY
5	NE COR PLOT 3 (LOWER RHYNCHOSPORA - ARISTIDA ZONE)
6	LOWER RHYNCHOSPORA - ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY
7	NE COR PLOT 4 (ERIOCAULON ZONE)
8	ERIOCAULON ZONE/CYPRESS DOME - RHYNCHOSPORA - OPEN WATER ZONE BOUNDARY
9	END TRANSECT 19
10	NE COR PLOT 5 (CYPRESS DOME-RHYNCHOSPORA - OPEN WATER ZONE)

NOTE:
SECTION LOOKING NORTH.

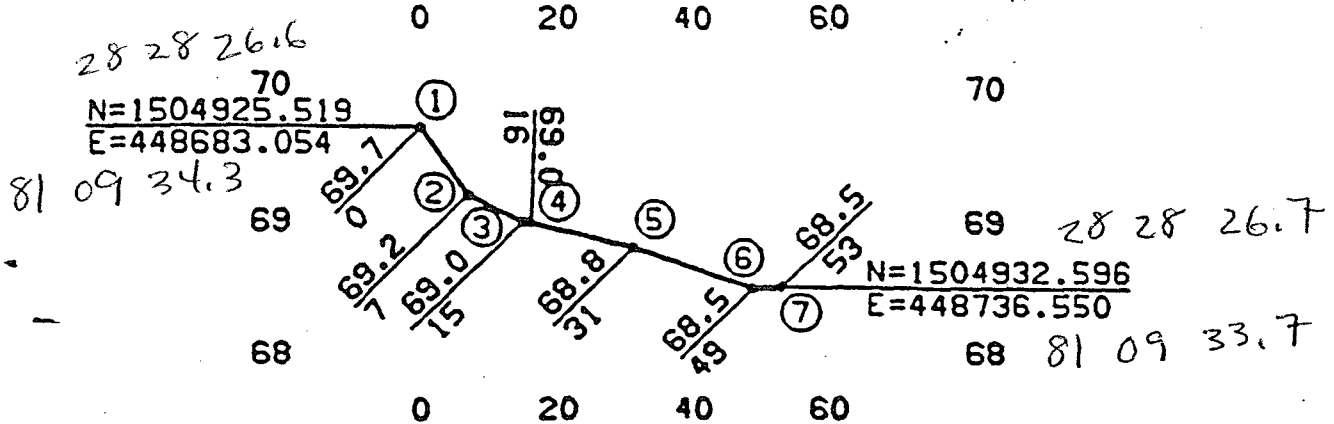
LEGEND

GROUND LEVEL INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET -
ALONG SECTION FROM START

ENGINEER		DRAWN JMS		007-28-93 INITIAL ISSUE									
CHECKED		DATE		NO DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP	
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2				PROJECT				DRAWING NUMBER				REV 0	
ELEVATION TRANSECTS				CODE				AREA					

8-30-93 2:53

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 20
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.6 - EAST

1	BEGIN TRANSECT 20, NE COR PLOT 1 (PINE FLATWOOD ZONE), UPPER RHYNCHOSPORA-ARISTIDA ZONE/PINE FLATWOODS ZONE BOUNDARY AND WETLAND BOUNDARY
2	NE COR PLOT 2 (UPPER RHYNCHOSPORA - ARISTIDA ZONE), UPPER RHYNCHOSPORA-ARISTIDA ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
3	NE COR PLOT 3 (LOWER RHYNCHOSPORA - ARISTIDA ZONE)
4	LOWER RHYNCHOSPORA - ARISTIDA ZONE /ERIOCAULON ZONE BOUNDARY
5	NE COR PLOT 4 (ERIOCAULON ZONE)
6	ERIOCAULON ZONE/CYPRESS DOME - RHYNCHOSPORA - OPEN WATER ZONE BOUNDARY
7	NW COR PLOT 5 (CYPRESS DOME-RHYNCHOSPORA-OPEN WATER ZONE) AND END TRANSECT
19	

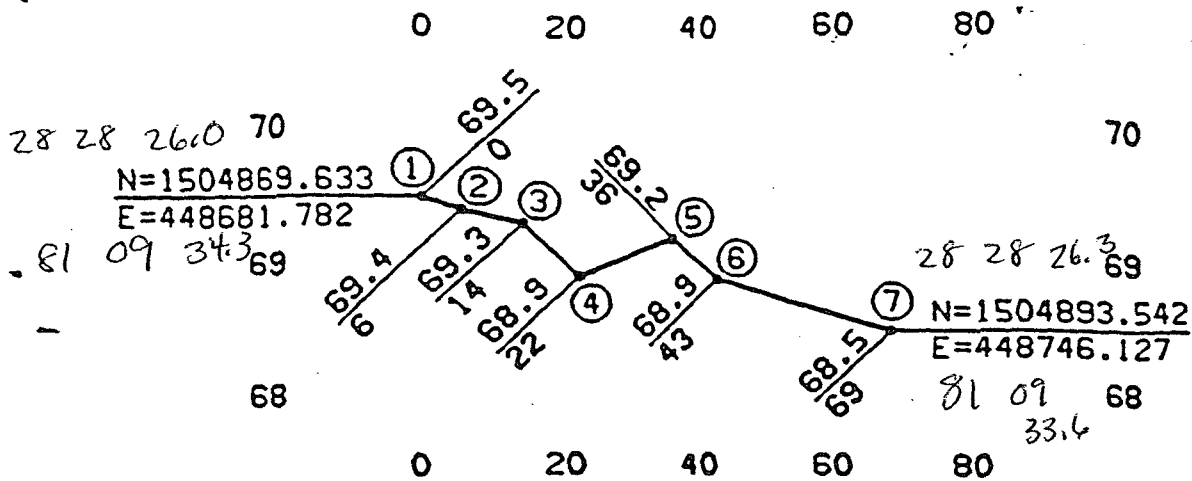
NOTE:
SECTION LOOKING NORTH.

LEGEND

GROUND LEVEL ——— INDICATES NGVD ELEVATION (FT)
——— INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER		DRAWN		JHS		07-28-93		INITIAL ISSUE											
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP		FLM			
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2										PROJECT				DRAWING NUMBER				REV 0	
ELEVATION TRANSECTS										CODE									
										AREA									

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993:



TRANSECT 21
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.6 - EAST

1	BEGIN TRANSECT 21, NE COR PLOT 1 (PINE FLATWOODS ZONE) PINE FLATWOODS ZONE/UPPER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY, WETLAND BOUNDARY
2	NE COR PLOT 2 (UPPER RHYNCHOSPORA - ARISTIDA ZONE)
3	UPPER RHYNCHOSPORA-ARISTIDA ZONE/LOWER ARISTIDA-RHYNCHOSPORA ZONE BOUNDARY
4	NE COR PLOT 3 (LOWER RHYNCHOSPORA - ARISTIDA ZONE)
5	NE COR PLOT 3B (LOWER RHYNCHOSPORA - ARISTIDA ZONE)
6	LOWER RHYNCHOSPORA - ARISTIDA ZONE/CYPRESS DOME - RHYNCHOSPORA - OPEN WATER ZONE BOUNDARY
7	NW COR PLOT 5 (CYPRESS DOME-RHYNCHOSPORA-OPEN WATER ZONE), END TRANSECT 21

NOTE: PLOT 3B IS IN LOWER RHYNCHOSPORA - ARISTIDA ZONE AT TIME OF BASELINE DATA. NO ERIOCAULON ZONE, THEREFORE NO PLOT 4.

NOTE:
SECTION LOOKING NORTH.

LEGEND

GROUND
LEVEL

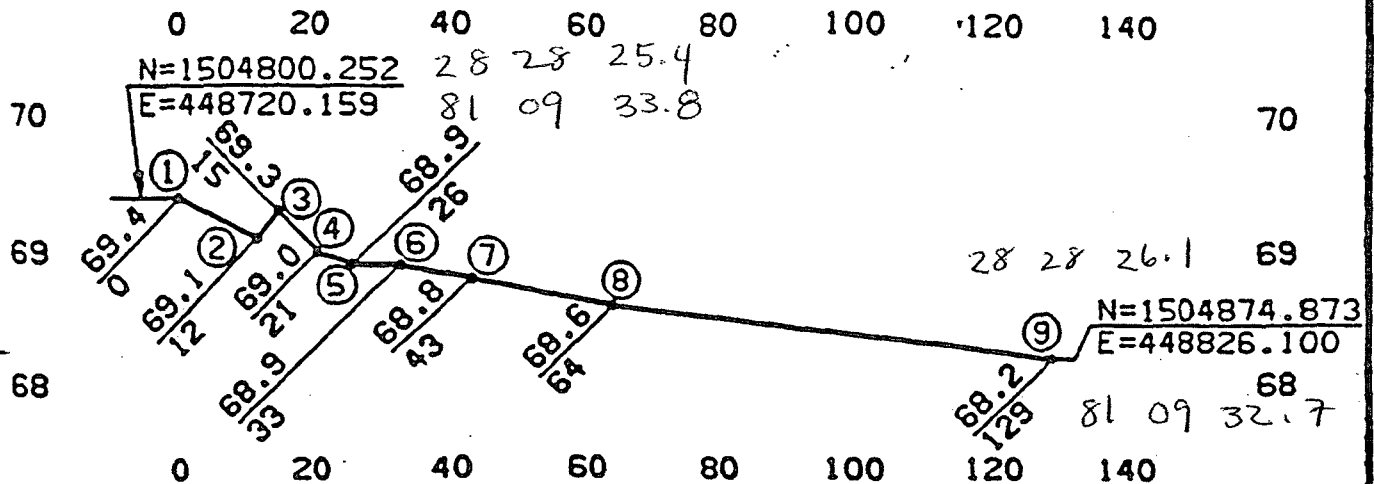


INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER		DRAWN		JHS		007-28-93 INITIAL ISSUE											
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP			
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2								PROJECT				DRAWING NUMBER				REV 0	
ELEVATION TRANSECTS								CODE									
								AREA									

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ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 22
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.6 - EAST

1	BEGIN TRANSECT 22, NE COR PLOT 1 (PINE FLATWOODS ZONE), WETLAND BOUNDARY, UPPER RHYNCHOSPORA - ARISTIDA ZONE/PINE FLATWOODS ZONE BOUNDARY
2	NE COR PLOT 2 (UPPER RHYNCHOSPORA - ARISTIDA ZONE)
3	UPPER RHYNCHOSPORA-ARISTIDA ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
4	NE COR PLOT 3 (LOWER RHYNCHOSPORA - ARISTIDA ZONE)
5	LOWER RHYNCHOSPORA - ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY
6	NE COR PLOT 4 (ERIOCAULON ZONE)
7	ERIOCAULON ZONE/CYPRESS DOME - RHYNCHOSPORA - OPEN WATER ZONE BOUNDARY
8	NE COR PLOT 5 (CYPRESS DOME - RHYNCHOSPORA - OPEN WATER ZONE)
9	END TRANSECT 22

NOTE:
SECTION LOOKING NORTH.

LEGEND

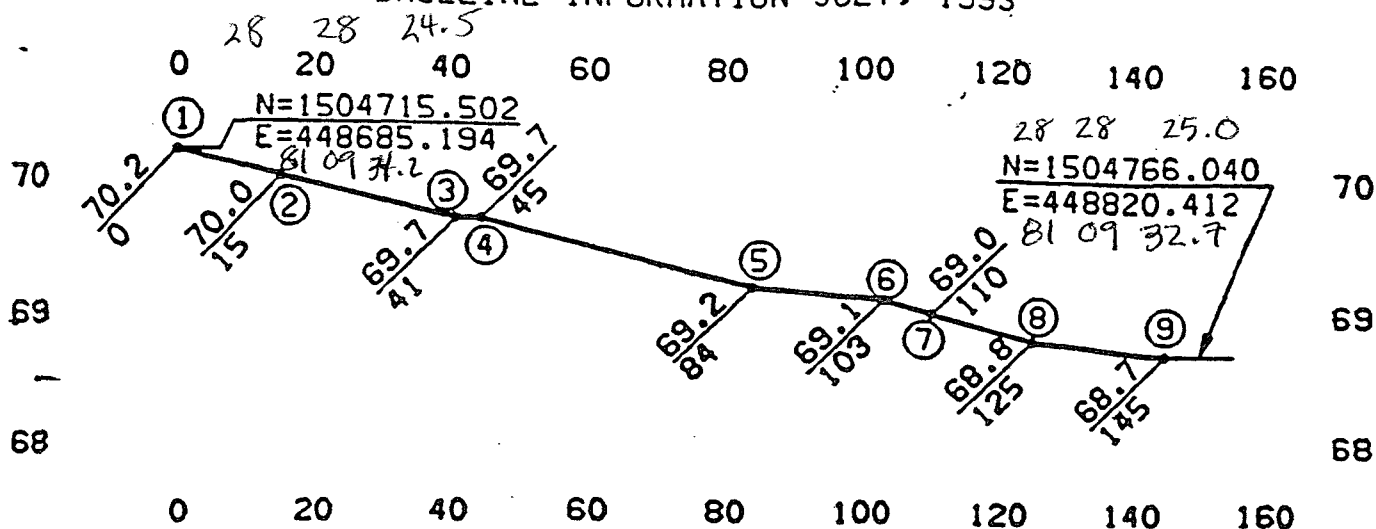
GROUND LEVEL ——— INDICATES NGVD ELEVATION (FT)

——— INDICATES DISTANCE IN FEET ALONG SECTION FROM START

ENGINEER		DRAWN JWS		07-28-93		INITIAL ISSUE					
CHECKED		DATE		NO	DATE	REVISIONS AND RECORD OF ISSUE		BY	CHK	APP	FLM
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2						PROJECT		DRAWING NUMBER		REV 0	
ELEVATION TRANSECTS						CODE					
						AREA					

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ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 23A
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.6 - EAST

1	BEGIN TRANSECT 23A, WETLAND BOUNDARY, PINE FLATWOODS ZONE/UPPER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY, NE COR PLOT 1 (PINE FLATWOODS ZONE)
2	NE COR PLOT 2 (UPPER RHYNCHOSPORA - ARISTIDA ZONE)
3	UPPER RHYNCHOSPORA-ARISTIDA ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
4	NE COR PLOT 3 (LOWER RHYNCHOSPORA - ARISTIDA ZONE)
5	GROUND SHOT (ELEVATIONAL CHANGE - NO PLOT)
6	LOWER RHYNCHOSPORA - ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY
7	NE COR PLOT 4 (ERIOCAULON ZONE)
8	ERIOCAULON ZONE/CYPRESS DOME - RHYNCHOSPORA - OPEN WATER ZONE BOUNDARY
9	EAST END TRANSECT 23A, NE COR PLOT 5 (CYPRESS DOME - RHYNCHOSPORA - OPEN WATER ZONE)

NOTE:
SECTION LOOKING NORTHWEST.

LEGEND

GROUND
LEVEL

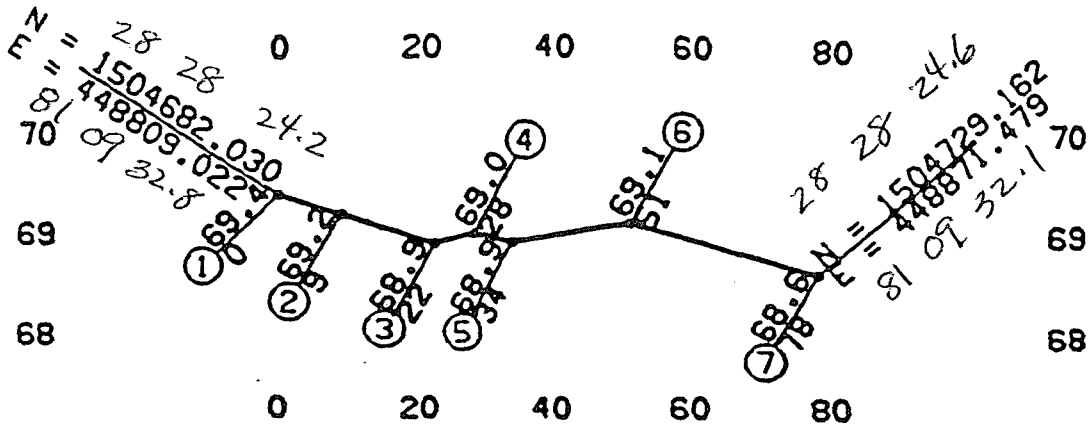


INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER		DRAWN		JHS		007-28-93 INITIAL ISSUE											
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP			
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2								PROJECT				DRAWING NUMBER				REV 0	
ELEVATION TRANSECTS								CODE									
								AREA									

8-30-93 1:58 P

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 23B
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.6 - EAST

1	BEGIN TRANSECT 23B, SE COR PLOT 1 (PINE FLATHOOD ZONE), WETLAND BOUNDARY AND FMC FLATHOOD ZONE/UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
2	SE COR PLOT 2 (UPPER RHYNCHOSPORA-ARISTIDA ZONE)
3	UPPER RHYNCHOSPORA-ARISTIDA ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
4	LOWER RHYNCHOSPORA-ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY & NE COR PLOT 3 (LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY)
5	NE COR PLOT 4 (ERIOCAULON ZONE)
6	ERIOCAULON ZONE/CYPRESS DOME-RHYNCHOSPORA-OPEN WATER ZONE
7	END TRANSECT 23B & NE COR PLOT 5 (CYPRESS DOME-RHYNCHOSPORA-OPEN WATER ZONE)

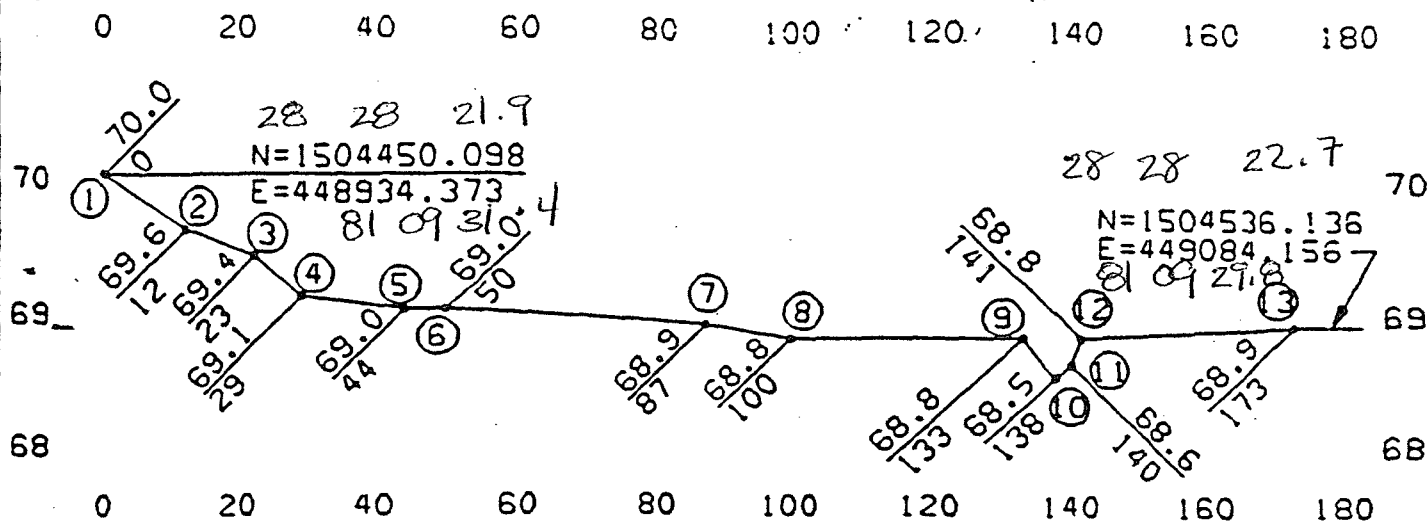
NOTE:
SECTION LOOKING NORTH.

LEGEND
GROUND LEVEL ——— INDICATES NGVD ELEVATION (FT)
——— INDICATES DISTANCE IN FEET ALONG SECTION FROM START

ENGINEER		DRAWN		GAS		07-28-93		INITIAL ISSUE									
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP			
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER UNIT 2										PROJECT				DRAWING NUMBER		REV 0	
ELEVATION TRANSECTS										CODE							
										AREA							

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8-27-93 1:35 P

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 24
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.6 - EAST

1	SE COR PLOT 1 (PINE FLATWOODS ZONE)
2	WETLAND BOUNDARY
3	PINE FLATWOODS ZONE - UPPER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY
4	NE COR PLOT 2 (UPPER RHYNCHOSPORA - ARISTIDA ZONE)
5	UPPER RHYNCHOSPORA-ARISTIDA ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
6	NE COR PLOT 3 (LOWER RHYNCHOSPORA - ARISTIDA ZONE)
7	ERIOCAULON ZONE/LOWER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY
8	NE COR PLOT 4 (ERIOCAULON ZONE)
9	TOP DITCH
10	DITCH BOTTOM AND RHYNCHOSPORA - OPEN WATER ZONE/ERIOCAULON ZONE BOUNDARY
11	DITCH BOTTOM
12	NE COR PLOT 5 (RHYNCHOSPORA - OPEN WATER ZONE) AND RHYNCHOSPORA - OPEN WATER ZONE/ERIOCAULON ZONE BOUNDARY, TOP DITCH
13	PERMANENT PHOTO LOCATION (END TRANSECT 24)

NOTE:
SECTION LOOKING WEST.

LEGEND

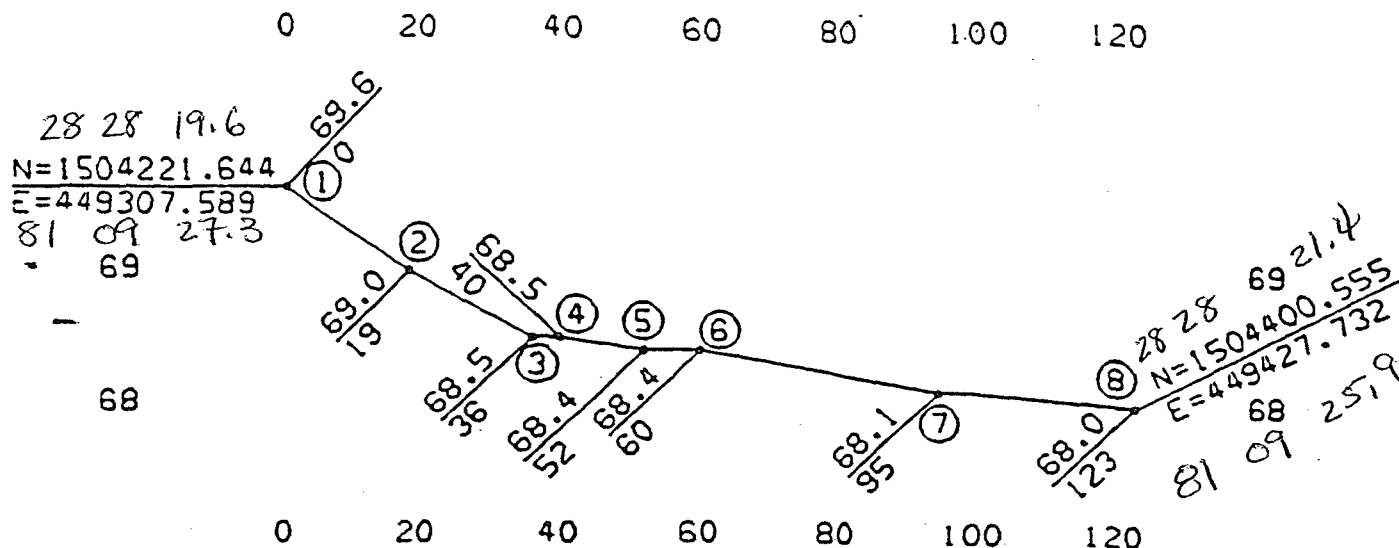
GROUND
LEVEL

INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER		DRAWN		JWS		07-28-93		INITIAL ISSUE											
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP		FLM			
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2										PROJECT				DRAWING NUMBER				REV	
ELEVATION TRANSECTS										CODE								0	
										AREA									

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ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 25
(ESTABLISHED SEPTEMBER 1992)
MITIGATION SITE 3.6 - EAST

1	BEGIN TRANSECT 25, NE COR PLOT 1 (PINE FLATWOODS ZONE), PINE FLATWOODS ZONE/UPPER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY, SW COR PLOT 2 (UPPER RHYNCHOSPORA - ARISTIDA ZONE), WETLAND BOUNDARY
2	UPPER RHYNCHOSPORA-ARISTIDA ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
3	NE CORNER PLOT 3 (LOWER RHYNCHOSPORA - ARISTIDA ZONE)
4	LOWER RHYNCHOSPORA - ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY
5	NW COR PLOT 4 (ERIOCAULON ZONE)
6	ERIOCAULON ZONE/CYPRESS DOME - RHYNCHOSPORA - OPEN WATER ZONE BOUNDARY
7	SE COR PLOT 5 (CYPRESS DOME - RHYNCHOSPORA - OPEN WATER ZONE)
8	EAST END T-25

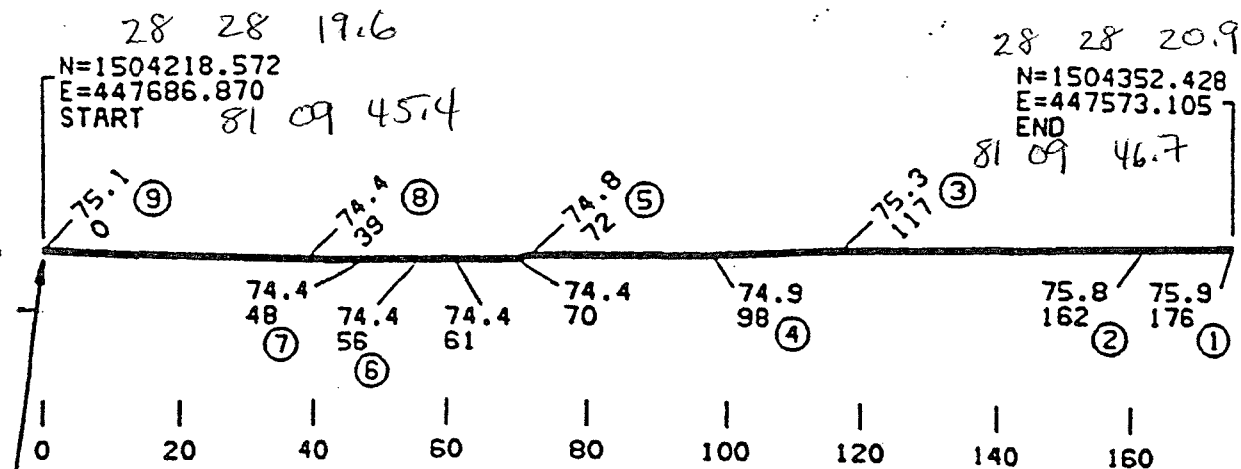
NOTE:
SECTION LOOKING NORTHWEST.

LEGEND

GROUND LEVEL INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER		DRAWN		JWS		07-28-93		INITIAL ISSUE											
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP		FLM			
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2										PROJECT				DRAWING NUMBER				REV	
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ELEVATION TRANSECTS										CODE									
										AREA									

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION APRIL, 1993



GROUND EL. = 74.3
AT STAFF GAUGE 11
0.00 MARK IS 0.4 FT.
ABOVE GROUND, 2' MARK
AT ELEVATION=76.72
LOCATED 166' SOUTHWEST

TRANSECT 26
(ESTABLISHED MARCH, 1993)
MITIGATION SITE 3.6-WEST

1	BEGIN TRANSECT 26, PINE FLATWOOD ZONE/TALL SERENOA ZONE BOUNDARY, WETLAND BOUNDARY. PLOT 1 SW CORNER (PINE FLATWOOD ZONE)
2	PLOT 2 NW CORNER (TALL SERENOA ZONE)
3	TALL SERENOA ZONE/SERENOA-ILEX ZONE BOUNDARY
4	PLOT 3 NW CORNER (SERENOA-ILEX ZONE)
5	SERENOA-ILEX ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY, PLOT 4 NW CORNER (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
6	LOWER RHYNCHOSPORA-ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY
7	PLOT 5 NW CORNER (ERIOCAULON ZONE)
8	ERIOCAULON ZONE BOUNDARY
9	END TRANSECT 26

NOTE:
THIS SECTION LOOKING WEST.

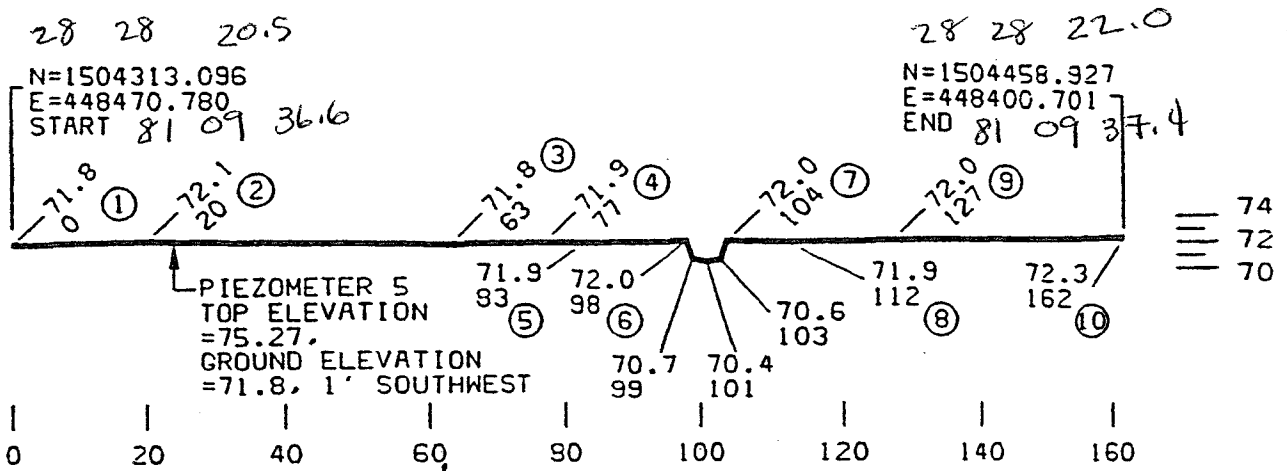
LEGEND

GROUND LEVEL ——— INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER		DRAWN		HRR		1 05-14-93		REVISED PER FDER COMMENTS							
CHECKED		DATE				0 04-05-93		INITIAL ISSUE							
				NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP	
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2										PROJECT		DRAWING NUMBER		REV 1	
ELEVATION TRANSECTS AT PIEZOMETERS AND STAFF GAUGES										CODE					
										AREA					

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ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION APRIL, 1993



NOTE:

CURRENT VEGETATION ZONES
DO NOT INCLUDE
ERIOCAULON ZONE.

TRANSECT 27
(ESTABLISHED MARCH, 1993)
MITIGATION SITE 3.6-WEST

1	BEGIN TRANSECT 27
2	PINE FLATWOOD ZONE/UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY, WETLAND BOUNDARY
3	PLOT 2A NW CORNER (UPPER RHYNCHOSPORA-ARISTIDA ZONE)
4	PLOT 2B NW CORNER (UPPER RHYNCHOSPORA-ARISTIDA ZONE)
5	UPPER RHYNCHOSPORA-ARISTIDA ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
6	TOP OF DITCH. LOWER RHYNCHOSPORA-ARISTIDA ZONE/RHYNCHOSPORA-OPEN WATER ZONE BOUNDARY
7	TOP OF DITCH. PLOT 5 NW CORNER RHYNCHOSPORA-OPEN WATER ZONE/ LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
8	PLOT 3 NW CORNER (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
9	WETLAND BOUNDARY
10	END TRANSECT 27, NW CORNER PLOT 1 (PINE FLATWOOD ZONE)

LEGEND

NOTE:
ALL SECTIONS LOOKING NORTH.

GROUND LEVEL ——— INDICATES NGVD ELEVATION (FT)
——— INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER	DRAWN	MRR	2	09-07-94	GENERAL REVISIONS				
CHECKED	DATE	NO.	1	05-14-93	REVISED PER FDER COMMENTS				
			0	04-05-93	INITIAL ISSUE				
			REVISIONS AND RECORD OF ISSUE			BY	CHK	APP	FLM

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER - UNIT 2

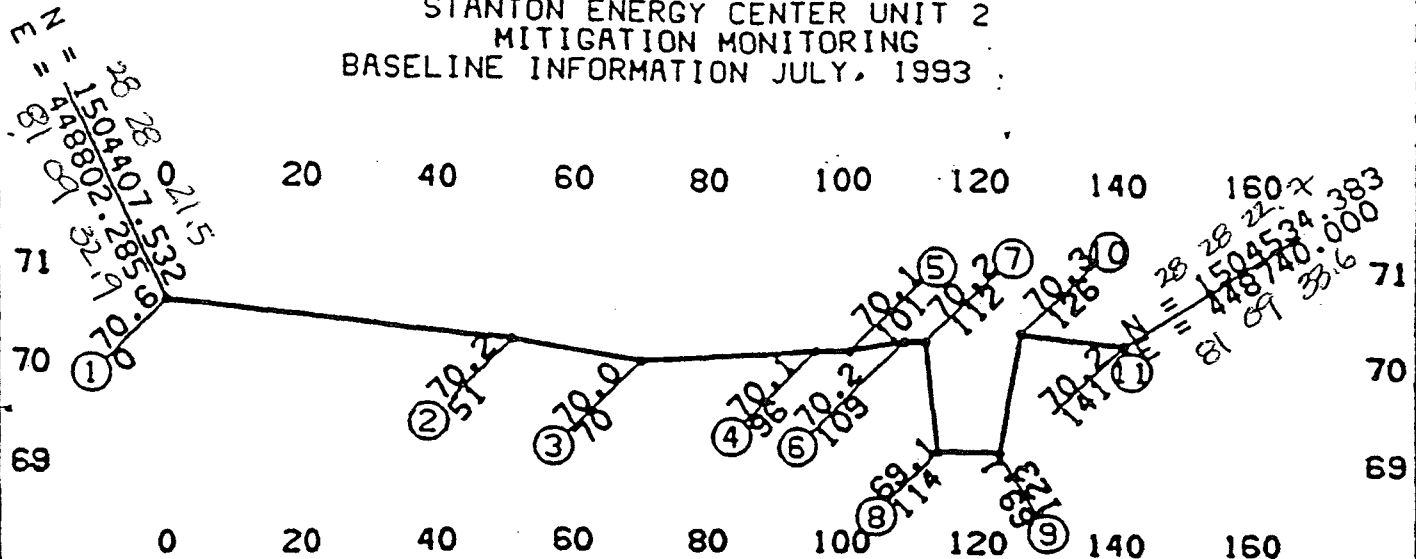
PROJECT DRAWING NUMBER
REV
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ELEVATION TRANSECTS AT
PIEZOMETER AND STAFF GAUGES

CODE
AREA

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ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 29
(ESTABLISHED APRIL 1993)
MITIGATION SITE 3.6 - WEST

1	BEGIN TRANSECT 29 & NE COR PLOT 1 (PINE FLATWOOD ZONE)
2	WETLAND BOUNDARY & PINE FLATWOOD ZONE/UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
3	NW COR PLOT 2A (UPPER RHYNCHOSPORA-ARISTIDA ZONE)
4	NW COR PLOT 2B (UPPER RHYNCHOSPORA-ARISTIDA ZONE)
5	UPPER RHYNCHOSPORA-ARISTIDA ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
6	NE COR PLOT 3 (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
7	LOWER RHYNCHOSPORA-ARISTIDA ZONE/RHYNCHOSPORA-OPEN WATER ZONE BOUNDARY & TOP DITCH
8	BOTTOM DITCH
9	NW COR PLOT 5 (RHYNCHOSPORA-OPEN WATER ZONE), RHYNCHOSPORA-OPEN WATER ZONE /LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY, BOTTOM DITCH
10	TOP DITCH
11	END TRANSECT 29 & WETLAND BOUNDARY

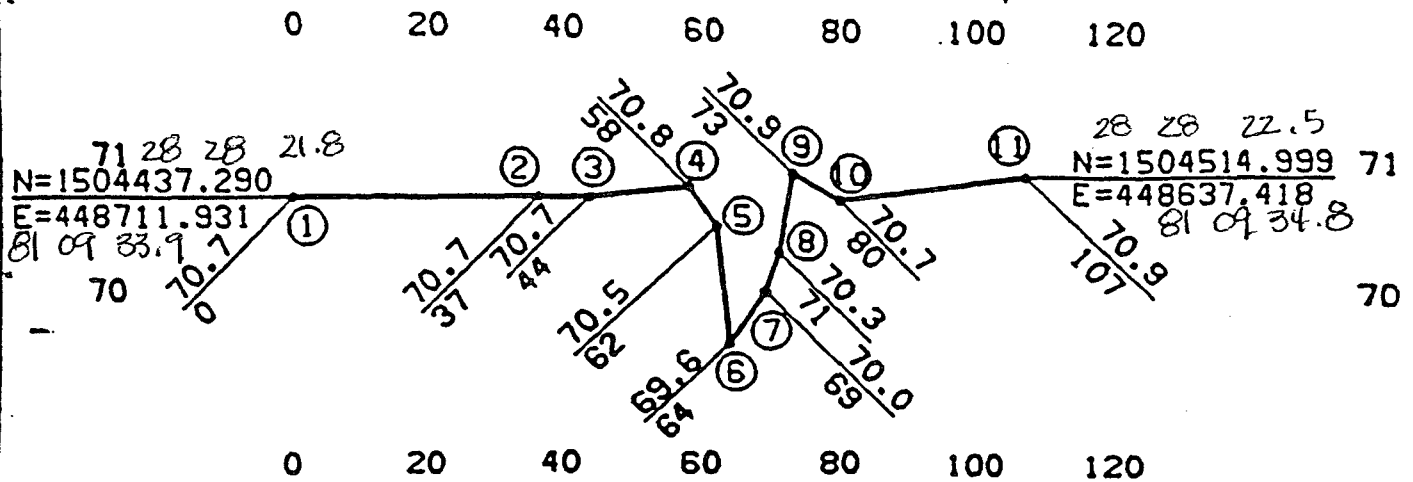
NOTE:
- SECTION LOOKING WEST.
- NO ERIOCAULON ZONE THEREFORE NO PLOT 4
- TRANSECT 29 RUNS SOUTH TO NORTH

LEGEND
GROUND LEVEL INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET ALONG SECTION FROM START

ENGINEER		DRAWN		CAS		07-28-93		INITIAL ISSUE											
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP		FLM			
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2										PROJECT				DRAWING NUMBER				REV 0	
ELEVATION TRANSECTS										CODE									
										AREA									

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8-27-93 2:51 P

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 30
(ESTABLISHED APRIL 1993)
MITIGATION SITE 3.6 - WEST

1	BEGIN TRANSECT 30, NW COR PLOT 1 (PINE FLATWOOD ZONE)
2	UPPER RHYNCHOSPORA - ARISTIDA ZONE/PINE FLATWOOD ZONE BOUNDARY AND WETLAND BOUNDARY
3	NW COR PLOT 2A (UPPER RHYNCHOSPORA - ARISTIDA ZONE)
4	NW COR PLOT 2B (UPPER RHYNCHOSPORA - ARISTIDA ZONE)
5	UPPER RHYNCHOSPORA - ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY, TOP DITCH
6	BOTTOM OF DITCH
7	NW COR PLOT 4 (ERIOCAULON ZONE)
8	BOTTOM DITCH
9	TOP DITCH AND ERIOCAULON ZONE/UPPER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY
10	NW COR PLOT 2C (UPPER RHYNCHOSPORA - ARISTIDA ZONE)
11	WETLAND BOUNDARY, END TRANSECT 30

NOTE: TRANSECT HAS ONLY THREE PLANT COMMUNITIES
TRANSECT 30 RUNS SOUTH TO NORTH

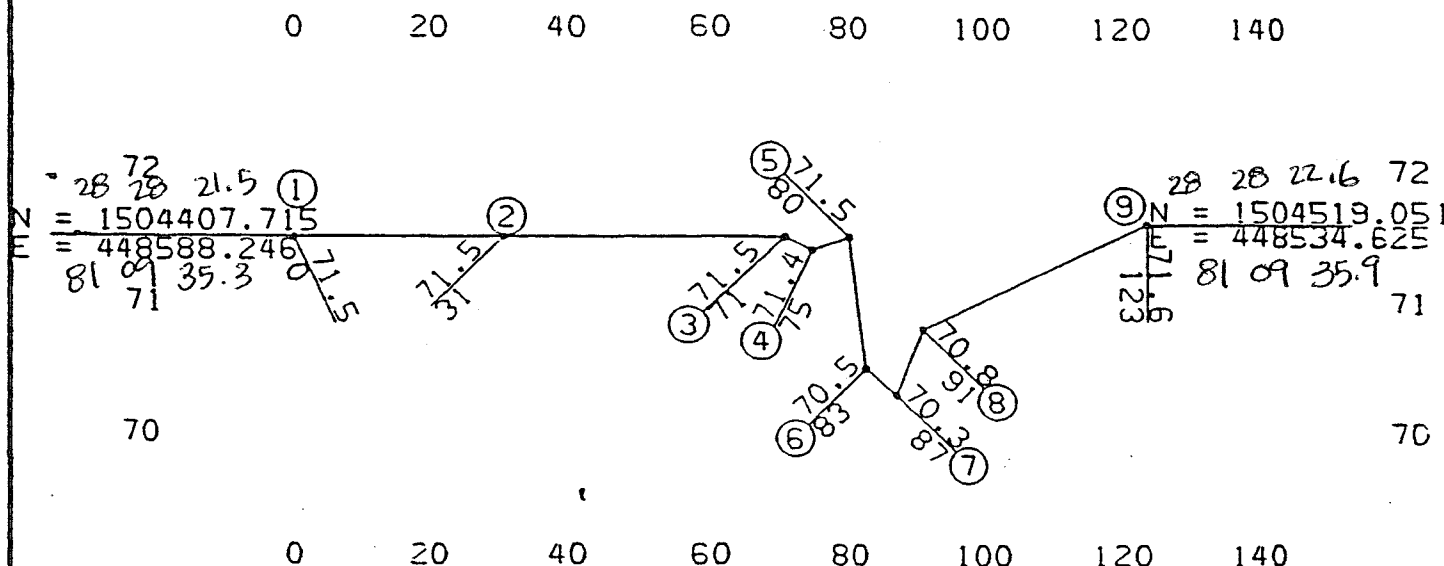
NOTE:
SECTION LOOKING EAST.

LEGEND
GROUND LEVEL ——— INDICATES NGVD ELEVATION (FT)
DISTANCE ——— INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER		DRAWN		JHS		007-28-93 INITIAL ISSUE											
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP		FLM	
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2								PROJECT				DRAWING NUMBER				REV 0	
ELEVATION TRANSECTS								CODE				AREA					

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8-30-93 1:47 P

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 31
(ESTABLISHED APRIL 1993)
MITIGATION SITE 3.6 - WEST

1	PINE FLATWOODS ZONE/UPPER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY, WETLAND BOUNDARY, NW COR PLOT 1 AND BEGIN TRANSECT 31
2	NW COR PLOT 2 (UPPER RHYNCHOSPORA - ARISTIDA ZONE)
3	UPPER RHYNCHOSPORA-ARISTIDA ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
4	NW COR PLOT 3 (LOWER RHYNCHOSPORA - ARISTIDA ZONE)
5	TOP DITCH
6	BOTTOM DITCH ERIOCAULON ZONE/UPPER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY
7	NW COR PLOT 4 (ERIOCAULON ZONE) AND ERIOCAULON ZONE/LOWER RHYNCHOSPORA - ARISTIDA ZONE AND BOTTOM DITCH
8	TOP DITCH
9	WETLAND BOUNDARY AND END TRANSECT 31

NOTE: - TRANSECT 31 RUNS SOUTH TO NORTH
- SECTION LOOKING WEST.
- NO RHYNCHOSPORA - OPEN WATER ZONE, THEREFORE NO PLOT 5

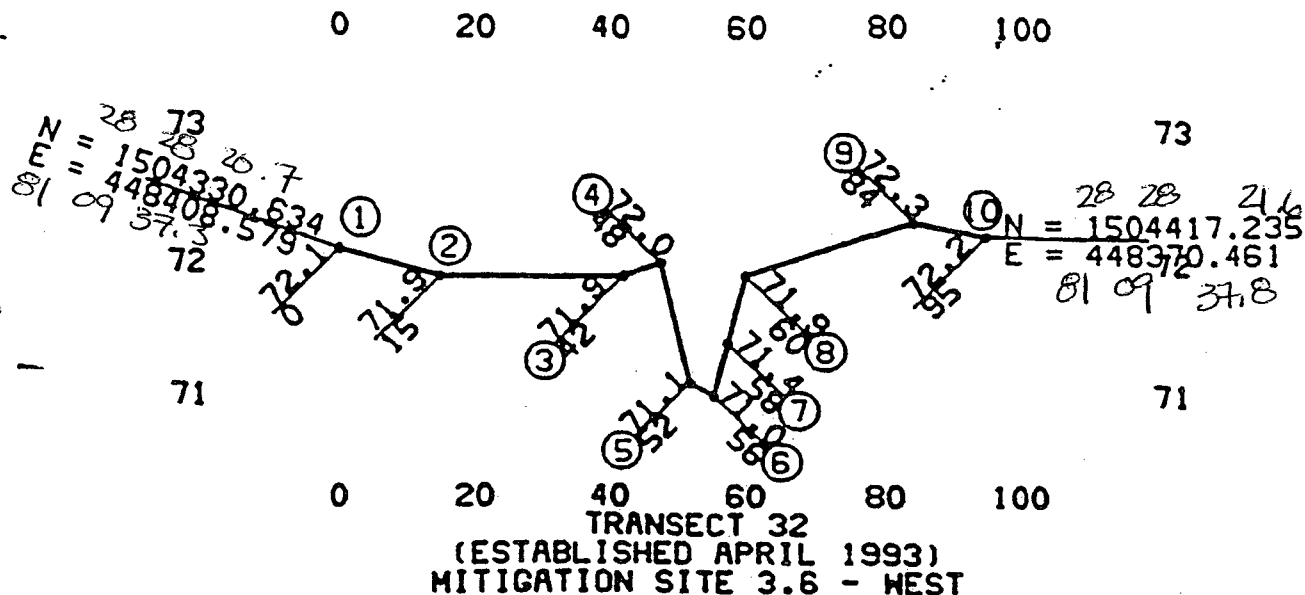
LEGEND

GROUND LEVEL

INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER		DRAWN		1	9-7-94	GENERAL REVISIONS						
				0	7-28-93	INITIAL ISSUE						
CHECKED		DATE		NO	DATE	REVISIONS AND RECORD OF ISSUE			BY	CHK	APP	FLM
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2						PROJECT			DRAWING NUMBER			REV 1
						CODE						

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



1	NW COR PLOT 1 (PINE FLATHOODS ZONE)
2	PINE FLATHOODS ZONE/UPPER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY AND WETLAND BOUNDARY
3	NW COR PLOT 2 (UPPER RHYNCHOSPORA - ARISTIDA ZONE)
4	UPPER RHYNCHOSPORA - ARISTIDA ZONE/ERIOCAULON ZONE
5	BOTTOM DITCH
6	BOTTOM DITCH, NW COR PLOT 4 (ERIOCAULON ZONE), ERIOCAULON ZONE/LOWER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY
7	TOP DITCH
8	NW COR PLOT 3 (LOWER RHYNCHOSPORA ARISTIDA ZONE)
8	WETLAND BOUNDARY
10	END TRANSECT 32

NOTE:

- TRANSECT 32 RUNS SOUTH TO NORTH
- PLANT COMMUNITY SHIFTS WILL BE MONITORED SOUTH OF DITCH
- NO RHYNCHOSPORA - OPEN WATER ZONE, THEREFORE NO PLOT 5

NOTE:

SECTION LOOKING WEST.

LEGEND

GROUND LEVEL  INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET ALONG SECTION FROM START

ENGINEER		DRAWN		GAS		07-28-93		INITIAL ISSUE											
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP		FLM			
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2										PROJECT				DRAWING NUMBER				REV 0	
ELEVATION TRANSECTS										CODE									
										AREA									

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8-30-93 1:17 P

STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993

Traverse Data:

Point	Bearing	Distance
1 to 2	N 28° 28' E	150.4
2 to 3	N 28° 28' E	150.4
3 to 4	N 28° 28' E	150.4
4 to 5	N 28° 28' E	150.4
5 to 6	N 28° 28' E	150.4
6 to 7	N 28° 28' E	150.4
7 to 8	N 28° 28' E	150.4
8 to 9	N 28° 28' E	150.4
9 to 10	N 28° 28' E	150.4
10 to 1	N 28° 28' E	150.4

1	BEGIN TRANSECT 33, NE COR PLOT 1 (PINE FLATWOOD ZONE), PINE FLATWOOD ZONE/ UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY AND WETLAND BOUNDARY
2	UPPER RHYNCHOSPORA-ARISTIDA ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
3	NW COR PLOT 3 (LOWER RHYNCHOSPORA - ARISTIDA ZONE)
4	TOP DITCH
5	BOTTOM DITCH AND LOWER RHYNCHOSPORA-ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY
6	BOTTOM DITCH
7	TOP DITCH, NW COR PLOT 4 (ERIOCAULON ZONE) AND ERIOCAULON ZONE/LOWER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY
8	LOWER RHYNCHOSPORA-ARISTIDA ZONE/UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
8	NW COR PLOT 2 (UPPER RHYNCHOSPORA - ARISTIDA ZONE)
10	WETLAND BOUNDARY AND UPPER RHYNCHOSPORA - ARISTIDA ZONE/PINE FLATWOOD ZONE BOUNDARY AND END TRANSECT 33

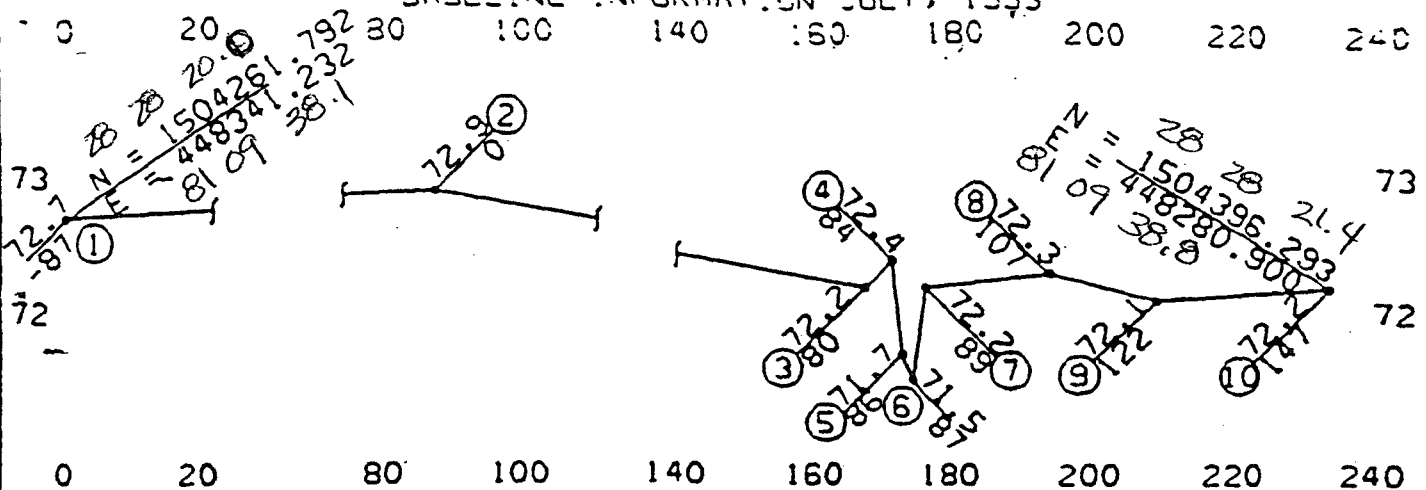
- TRANSECT 33 RUNS SOUTH TO NORTH
- PLANT COMMUNITY SHIFTS WILL BE MEASURED SOUTH OF DITCH
- NO RHYNCHOSPORA - OPEN WATER ZONE, THEREFORE NO PLOT 5

NOTE:
SECTION LOOKING WEST.

INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

LC [REDACTED] A2 [REDACTED] 80
-93 1:10 P.

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 34
(ESTABLISHED APRIL 1993)
MITIGATION SITE 3.6 - WEST

1	NW COR PLOT 1
2	BEGIN TRANSECT 34. GROUND SHOT AT IRON BAR
3	NW COR PLOT 3 (LOWER RHYNCHOSPORA - ARISTIDA ZONE)
4	TOP DITCH, LOWER RHYNCHOSPORA - ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY
5	BOTTOM DITCH
6	BOTTOM DITCH
7	TOP DITCH, NW COR PLOT 4 (ERIOCAULON ZONE), ERIOCAULON ZONE/LOWER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY
8	LOWER RHYNCHOSPORA-ARISTIDA ZONE/UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
8	NW COR PLOT 2 (UPPER RHYNCHOSPORA ARISTIDA ZONE)
10	UPPER RHYNCHOSPORA-ARISTIDA ZONE/PINE FLATWOODS ZONE BOUNDARY WETLAND, BOUNDARY, END TRANSECT 34

NOTE:

- THIS TRANSECT BEGINS ON SOUTH END
- PLOT 1 IS LOCATED 87' SOUTH OF TRANSECT END
- PLANT COMMUNITY SHIFTS WILL BE MEASURED NORTH OF DITCH
- NO RHYNCHOSPORA-OPEN WATER ZONE; THEREFORE NO PLOT 5

LEGEND

NOTE:

SECTION LOOKING EAST.

GROUND
LEVEL

INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER		DRAWN		GAS		07-28-93		INITIAL ISSUE											
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP		FLM			
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2										PROJECT				DRAWING NUMBER				REV 0	
ELEVATION TRANSECTS										CODE				AREA					

Figure 10 is a graph showing the variation of the ratio of the maximum to the minimum value of the function $f(x)$ versus the parameter x . The x-axis ranges from -80 to 120, and the y-axis ranges from 0 to 120. The curve starts at (0, 1), passes through (20, 1.2), (40, 1.4), (60, 1.6), (80, 1.8), (100, 2.0), and ends at (120, 2.2). The curve is labeled with points 1, 2, and 3. The ratio of the maximum to the minimum value of the function $f(x)$ is shown as a function of x .

1	NW COR PLOT 1 (PINE FLATWOODS ZONE), PINE FLATWOODS ZONE/UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY AND WETLAND BOUNDARY
2	BEGIN TRANSECT 35
3	UPPER RHYNCHOSPORA-ARISTIDA ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
4	TOP DITCH, LOWER RHYNCHOSPORA-ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY
5	BOTTOM DITCH
6	BOTTOM DITCH
7	NW COR PLOT 4 (ERIOCAULON ZONE) AND ERIOCAULON ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY, TOP DITCH
8	NE COR PLOT 3 (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
9	LOWER RHYNCHOSPORA-ARISTIDA ZONE/UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
10	NW COR PLOT 2 (UPPER RHYNCHOSPORA-ARISTIDA ZONE)
11	UPPER RHYNCHOSPORA-ARISTIDA ZONE-PINE FLATWOODS ZONE, WETLAND BOUNDARY AND END TRANSECT 35

- TRANSECT 35 RUNS SOUTH TO NORTH
- PLOT 1 LOCATED 74 FT SOUTH OF BEGINNING OF TRANSECT 35
- NO RHYNCHOSPORA-OPEN WATER ZONE, THEREFORE NO PLOT 5
- PLANT COMMUNITY SHIFTS WILL BE MONITORED NORTH OF DITCH

NOTE:
ALL SECTIONS LOOKING WEST.

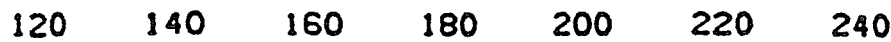
GROUND
LEVEL—

- INDICATES NGVD ELEVATION (FT)
- INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER		DRAWN		GAS		0		7-28-93		INITIAL ISSUE									
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP		FLH			
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2										PROJECT				DRAWING NUMBER				REV	
																		0	
ELEVATION TRANSECTS										CODE									
										AREA									

713 [REDACTED] 25MI [REDACTED] 'AD
[REDACTED] A2 1830
07/28/93 10:30:45

120 140 160 180 200 220 240'



1	NW COR PLOT 1 (PINE FLATWOODS ZONE), PINE FLATWOODS ZONE/UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY AND WETLAND BOUNDARY
2	BEGIN TRANSECT 35
3	UPPER RHYNCHOSPORA-ARISTIDA ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
4	TOP DITCH, LOWER RHYNCHOSPORA-ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY
5	BOTTOM DITCH
6	BOTTOM DITCH
7	NW COR PLOT 4 (ERIOCAULON ZONE) AND ERIOCAULON ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY, TOP DITCH
8	NE COR PLOT 3 (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
9	LOWER RHYNCHOSPORA-ARISTIDA ZONE/UPPER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
10	NW COR PLOT 2 (UPPER RHYNCHOSPORA-ARISTIDA ZONE)
11	UPPER RHYNCHOSPORA-ARISTIDA ZONE-PINE FLATWOODS ZONE, WETLAND BOUNDARY AND END TRANSECT 35

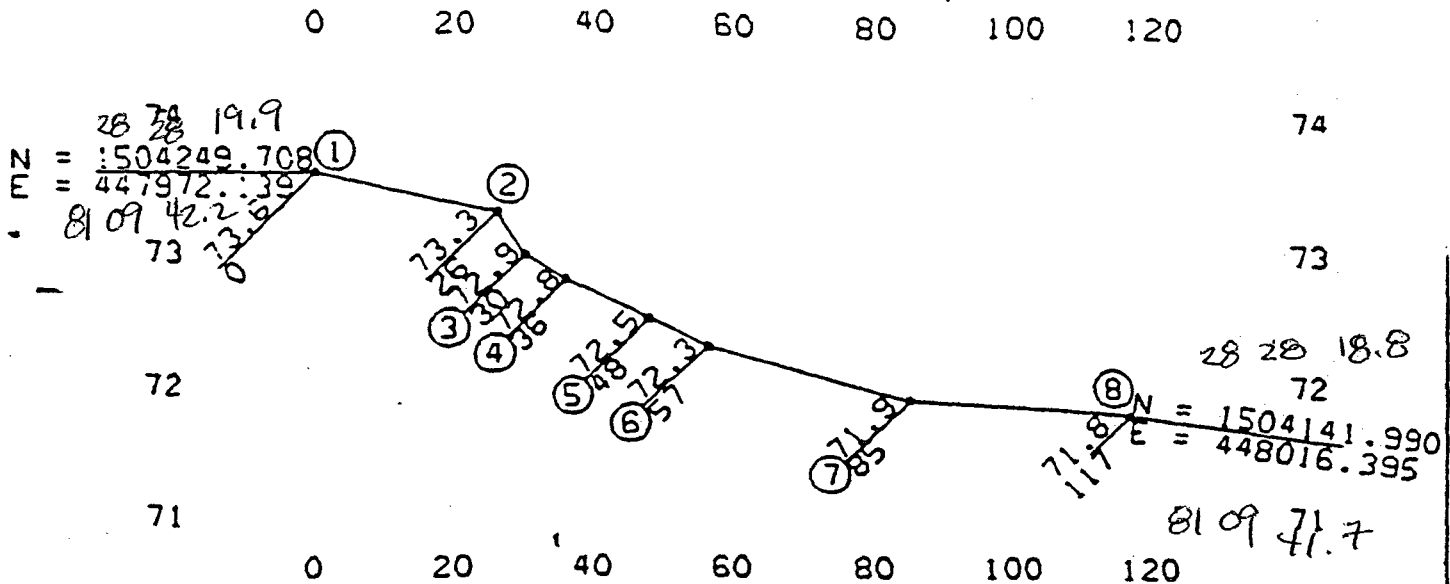
- TRANSECT 35 RUNS SOUTH TO NORTH
- PLOT 1 LOCATED 74 FT SOUTH OF BEGINNING OF TRANSECT 35
- NO RHYNCHOSPORA-OPEN WATER ZONE, THEREFORE NO PLOT 5
- PLANT COMMUNITY SHIFTS WILL BE MONITORED NORTH OF DITCH

NOTE:
ALL SECTIONS LOOKING WEST.

- INDICATES NGVD ELEVATION (FT)
- INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER		DRAWN		GAS		O 7-28-93		INITIAL ISSUE											
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP		FLM			
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2										PROJECT				DRAWING NUMBER				REV 0	
ELEVATION TRANSECTS										CODE									
										AREA									

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 37
(ESTABLISHED APRIL 1993)
MITIGATION SITE 3.6 - WEST

1	BEGIN TRANSECT 37, GROUND AT IRON BAR, SW COR PLOT 1 (PINE FLATWOODS ZONE)
2	UPPER RHYNCHOSPORA-ARISTIDA ZONE/PINE FLATWOOD ZONE BOUNDARY, AND WETLAND BOUNDARY
3	NW COR PLOT 2 (UPPER RHYNCHOSPORA-ARISTIDA ZONE)
4	UPPER RHYNCHOSPORA-ARISTIDA ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY AND NW COR PLOT 3 (LOWER RHYNCHOSPORA-ARISTIDA ZONE)
5	LOWER RHYNCHOSPORA-ARISTIDA ZONE/ERIOCAULON ZONE BOUNDARY
6	NW COR PLOT 4 (ERIOCAULON ZONE)
7	ERIOCAULON ZONE/CYPRESS DOME - RHYNCHOSPORA OPEN WATER ZONE BOUNDARY
8	NE COR PLOT 5 (CYPRESS DOME - RHYNCHOSPORA - OPEN WATER ZONE)

NOTE:
SECTION LOOKING EAST.

LEGEND

GROUND LEVEL INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER	DRAWN	GAS	0	7-28-93	INITIAL ISSUE				
CHECKED	DATE	NO	DATE	REVISIONS AND RECORD OF ISSUE	BY	CHK	APP	FLM	

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER - UNIT 2

PROJECT DRAWING NUMBER

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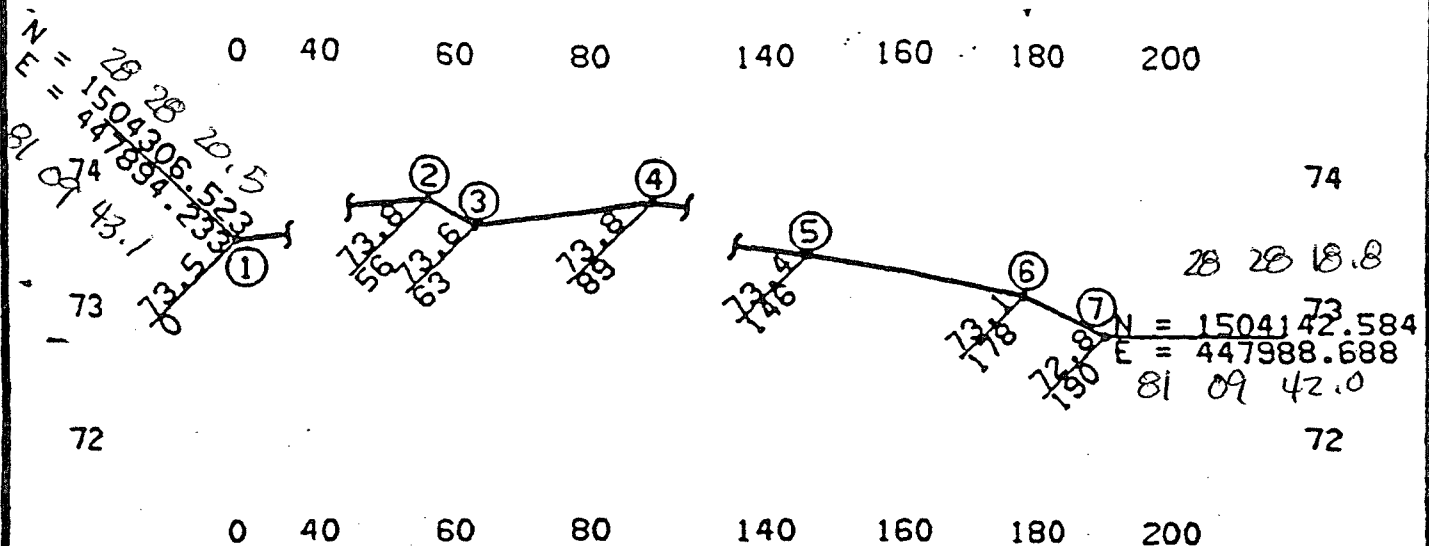
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CODE

ELEVATION TRANSECTS

1-3
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ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 38
(ESTABLISHED APRIL 1993)
MITIGATION SITE 3.6 - WEST

1	BEGIN TRANSECT 38, WETLAND BOUNDARY, SW COR PLOT 1 (PINE FLATHOOD ZONE)
	PINE FLATHOOD ZONE/UPPER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY
2	NW COR PLOT 2 (UPPER RHYNCHOSPORA - ARISTIDA ZONE)
3	UPPER RHYNCHOSPORA-ARISTIDA ZONE/LOWER RHYNCHOSPORA-ARISTIDA ZONE BOUNDARY
4	NW COR PLOT 3 (LOWER RHYNCHOSPORA - ARISTIDA ZONE)
5	NW COR PLOT 4, (ERIOCAULON ZONE), LOWER RHYNCHOSPORA - ARISTIDA ZONE/ ERIOCAULON ZONE BOUNDARY
6	ERIOCAULON ZONE/CYPRESS DOME-RHYNCHOSPORA-OPEN WATER ZONE BOUNDARY
7	NE COR PLOT 5 (CYPRESS DOME - RHYNCHOSPORA - OPEN WATER ZONE)

NOTE:
ALL SECTIONS LOOKING EAST.

LEGEND

GROUND
LEVEL

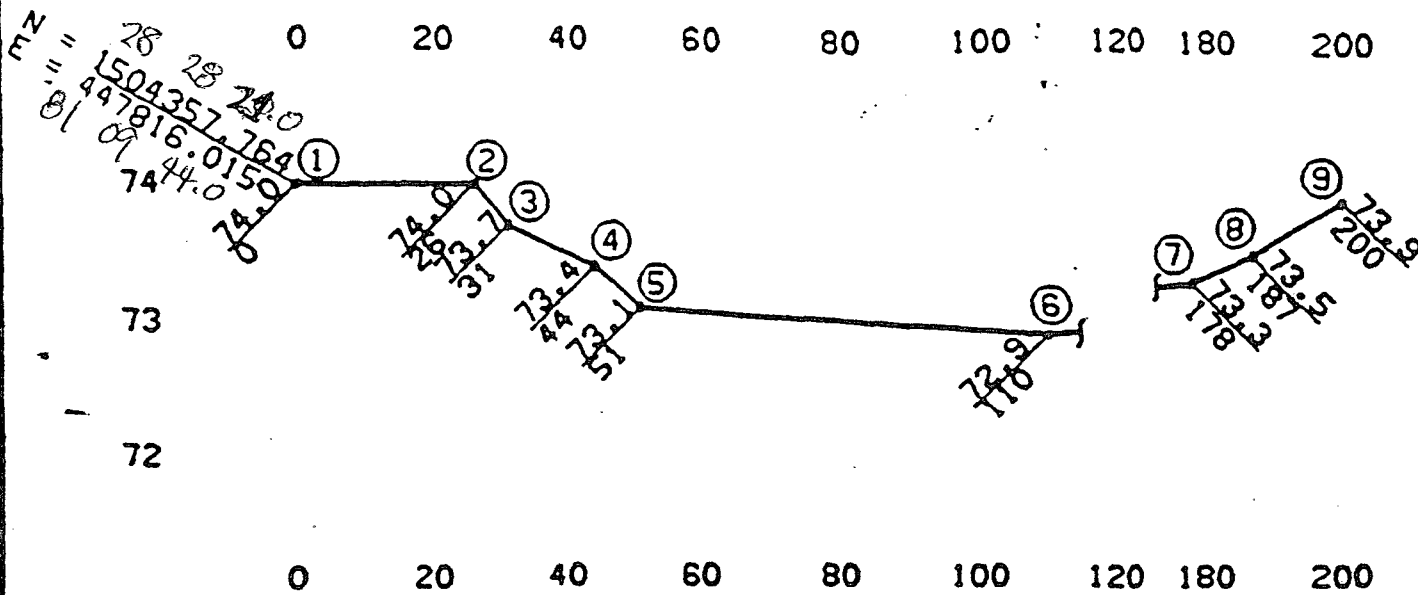


INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER		DRAWN		GAS		0 12-1-93		INITIAL ISSUE							
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP	
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ELEVATION TRANSECTS										CODE					
										AREA					

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ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 39
(ESTABLISHED APRIL 1993)
MITIGATION SITE 3.6 - WEST

1	BEGIN TRANSECT 39, SE COR PLOT 1 (PINE FLATWOODS)
2	WETLAND BOUNDARY, LOWER RHYNCHOSPORA-ARISTIDA/PINE FLATWOOD ZONE BOUNDARY
3	NW COR PLOT 3 (LOWER RHYNCHOSPORA - ARISTIDA ZONE)
4	ERIOCAULON ZONE / LOWER RHYNCHOSPORA ARISTIDA ZONE BOUNDARY
5	NW COR PLOT 4A (ERIOCAULON ZONE)
6	NW COR PLOT 4B (ERIOCAULON ZONE)
7	ERIOCAULON ZONE / LOWER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY
8	LOWER RHYNCHOSPORA - ARISTIDA ZONE / UPPER RHYNCHOSPORA ZONE BOUNDARY
9	NW COR PLOT 2 (UPPER RHYNCHOSPORA - ARISTIDA ZONE)
10	GROUND AT IRON BAR, WETLAND BOUNDARY, END TRANSECT 39

NOTE: IN THIS TRANSECT
- NO RHYNCHOSPORA - OPEN WATER ZONE
- PLOTS 4 AND 5 ARE IN ERIOCAULON ZONE

NOTE:
SECTION LOOKING EAST.

LEGEND
GROUND LEVEL
INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

ENGINEER		DRAWN		HJJ		0 12-1-93		INITIAL ISSUE											
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ELEVATION TRANSECTS										CODE									
										AREA									

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993

200 220 240 260 280 300 320 340 360

⑨
13.9
200

⑩
13.4
35.8

20 20 17.5
= 1504005.542
447818.523
81 09 43.2
74
73
72

200 220 240 260 280 300 320 340 360

TRANSECT 39
(ESTABLISHED APRIL 1993)
MITIGATION SITE 3.6 - WEST

1	BEGIN TRANSECT 39, SE COR PLOT 1 (PINE FLATWOODS)
2	WETLAND BOUNDARY, LOWER RHYNCHOSPORA-ARISTIDA/PINE FLATWOOD ZONE BOUNDARY
3	NW COR PLOT 3 (LOWER RHYNCHOSPORA - ARISTIDA ZONE)
4	ERIOCAULON ZONE / LOWER RHYNCHOSPORA ARISTIDA ZONE BOUNDARY
5	NW COR PLOT 4A (ERIOCAULON ZONE)
6	NW COR PLOT 4B (ERIOCAULON ZONE)
7	ERIOCAULON ZONE / LOWER RHYNCHOSPORA - ARISTIDA ZONE BOUNDARY
8	LOWER RHYNCHOSPORA - ARISTIDA ZONE / UPPER RHYNCHOSPORA ZONE BOUNDARY
9	NW COR PLOT 2 (UPPER RHYNCHOSPORA - ARISTIDA ZONE)
10	GROUND AT IRON BAR, WETLAND BOUNDARY, END TRANSECT 39

NOTE: IN THIS TRANSECT
- NO RHYNCHOSPORA - OPEN WATER ZONE
- PLOTS 4 AND 5 ARE IN ERIOCAULON ZONE

LEGEND

NOTE:
SECTION LOOKING EAST.

GROUND
LEVEL

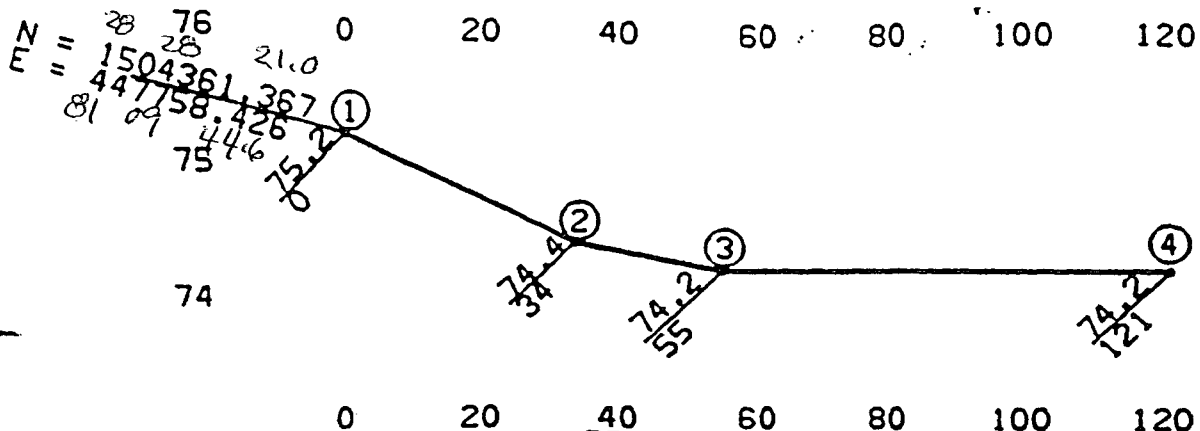


INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

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ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2										PROJECT		DRAWING NUMBER		REV 0	
ELEVATION TRANSECTS										CODE					
										AREA					

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8-30-93 8:30 A

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993



TRANSECT 40
(ESTABLISHED APRIL 1993)
MITIGATION SITE 3.6 - WEST

1	BEGIN TRANSECT 40, WETLAND BOUNDARY, SE COR PLOT 1 (PINE FLATWOOD ZONE), PINE FLATWOOD ZONE/SERENOA ZONE BOUNDARY
2	NW COR PLOT 2 (SERENOA ZONE)
3	NW COR PLOT 3 (UPPER SERENOA - ILEX ZONE) SERENOA ZONE/UPPER SERENOA-ILEX ZONE BOUNDARY
4	NW COR PLOT 4 (LOWER SERENOA - ILEX ZONE) UPPER SERENOA-ILEX ZONE/LOWER SERENOA-ILEX ZONE BOUNDARY
5	SERENOA ZONE/UPPER SERENOA - ILEX ZONE BOUNDARY
6	GROUND AT IRON BAR END TRANSECT 40

NOTE: IN THIS TRANSECT

- SERENOA ZONE HAS REPLACED TYPICAL UPPER RHYNCHOSPORA - ARISTIDA ZONE
- UPPER SERENOA - ILEX ZONE HAS REPLACED LOWER RHYNCHOSPORA - ARISTIDA ZONE
- LOWER SERENOA - ILEX ZONE HAS REPLACED ERIOCAULON ZONE
- RHYNCHOSPORA - OPEN WATER ZONE DOES NOT OCCUR
- NO PLOT 5

NOTE:
ALL SECTIONS LOOKING EAST.

LEGEND

GROUND LEVEL INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

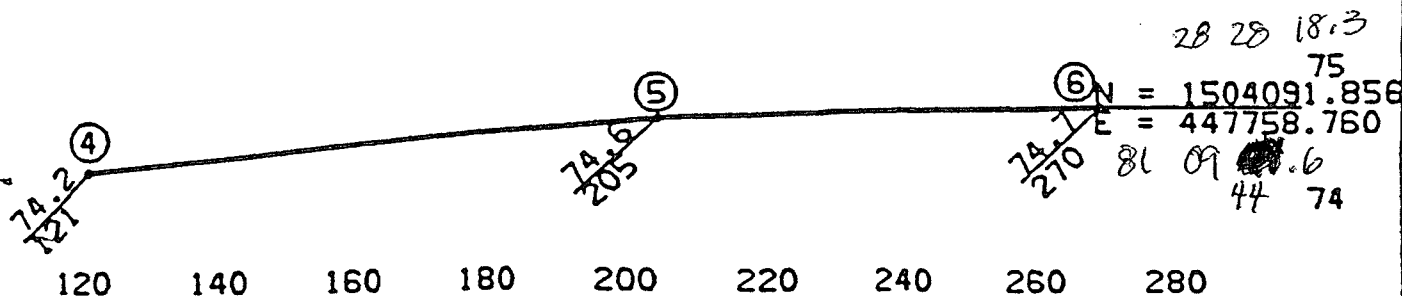
ENGINEER		DRAWN HJJ		0 12-1-93		INITIAL ISSUE													
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK		APP		FLM			
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2										PROJECT				DRAWING NUMBER				REV 0	
ELEVATION TRANSECTS										CODE									
										AREA									

500 L 12
A01SL002 A2 1=30
11/30/93 08:06:59

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER UNIT 2
MITIGATION MONITORING
BASELINE INFORMATION JULY, 1993

120 140 160 180 200 220 240 260 280

76



TRANSECT 40
(ESTABLISHED APRIL 1993)
MITIGATION SITE 3.6 - WEST

1	BEGIN TRANSECT 40, WETLAND BOUNDARY, SE COR PLOT 1 (PINE FLATHOOD ZONE), PINE FLATHOOD ZONE/SERENOA ZONE BOUNDARY
2	NW COR PLOT 2 (SERENOA ZONE)
3	NW COR PLOT 3 (UPPER SERENOA - ILEX ZONE) SERENOA ZONE/UPPER SERENOA-ILEX ZONE BOUNDARY
4	NW COR PLOT 4 (LOWER SERENOA - ILEX ZONE) UPPER SERENOA-ILEX ZONE/LOWER SERENOA-ILEX ZONE BOUNDARY
5	SERENOA ZONE/UPPER SERENOA - ILEX ZONE BOUNDARY
6	GROUND AT IRON BAR END TRANSECT 40

- NOTE: IN THIS TRANSECT
- SERENOA ZONE HAS REPLACED TYPICAL UPPER RHYNCHOSPORA - ARISTIDA ZONE
 - UPPER SERENOA - ILEX ZONE HAS REPLACED LOWER RHYNCHOSPORA - ARISTIDA ZONE
 - LOWER SERENOA - ILEX ZONE HAS REPLACED ERIOCAULON ZONE
 - RHYNCHOSPORA - OPEN WATER ZONE DOES NOT OCCUR
 - NO PLOT 5

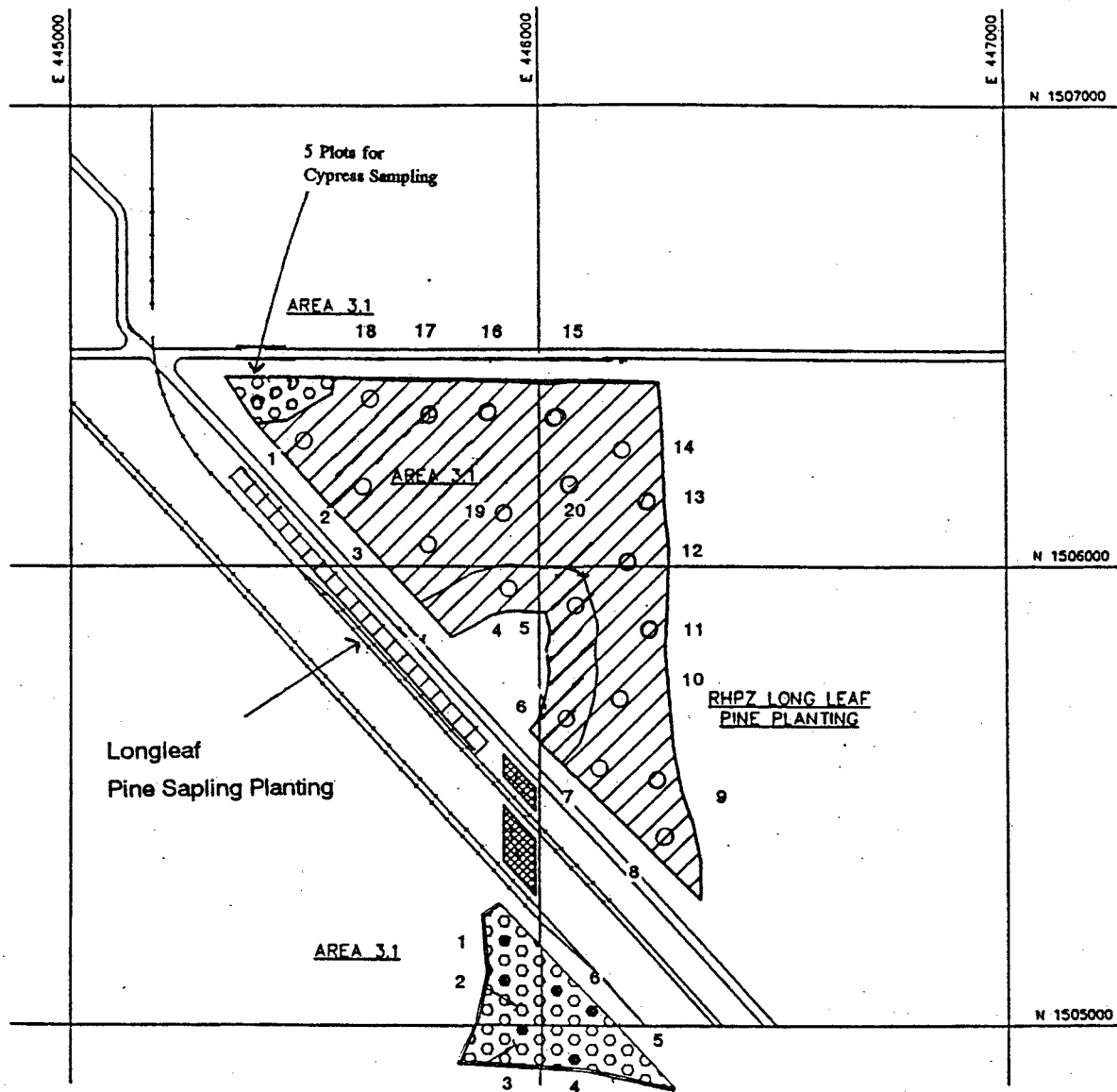
NOTE:
ALL SECTIONS LOOKING EAST.

LEGEND

GROUND LEVEL INDICATES NGVD ELEVATION (FT)
INDICATES DISTANCE IN FEET
ALONG SECTION FROM START

CH									
ENGINEER	DRAWN	HJJ	0	12-1-93	INITIAL ISSUE				
CHECKED	DATE		NO	DATE	REVISIONS AND RECORD OF ISSUE	BY	CHK	APP	FLM
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2						PROJECT		DRAWING NUMBER	
ELEVATION TRANSECTS						CODE		REV	
						AREA		0	

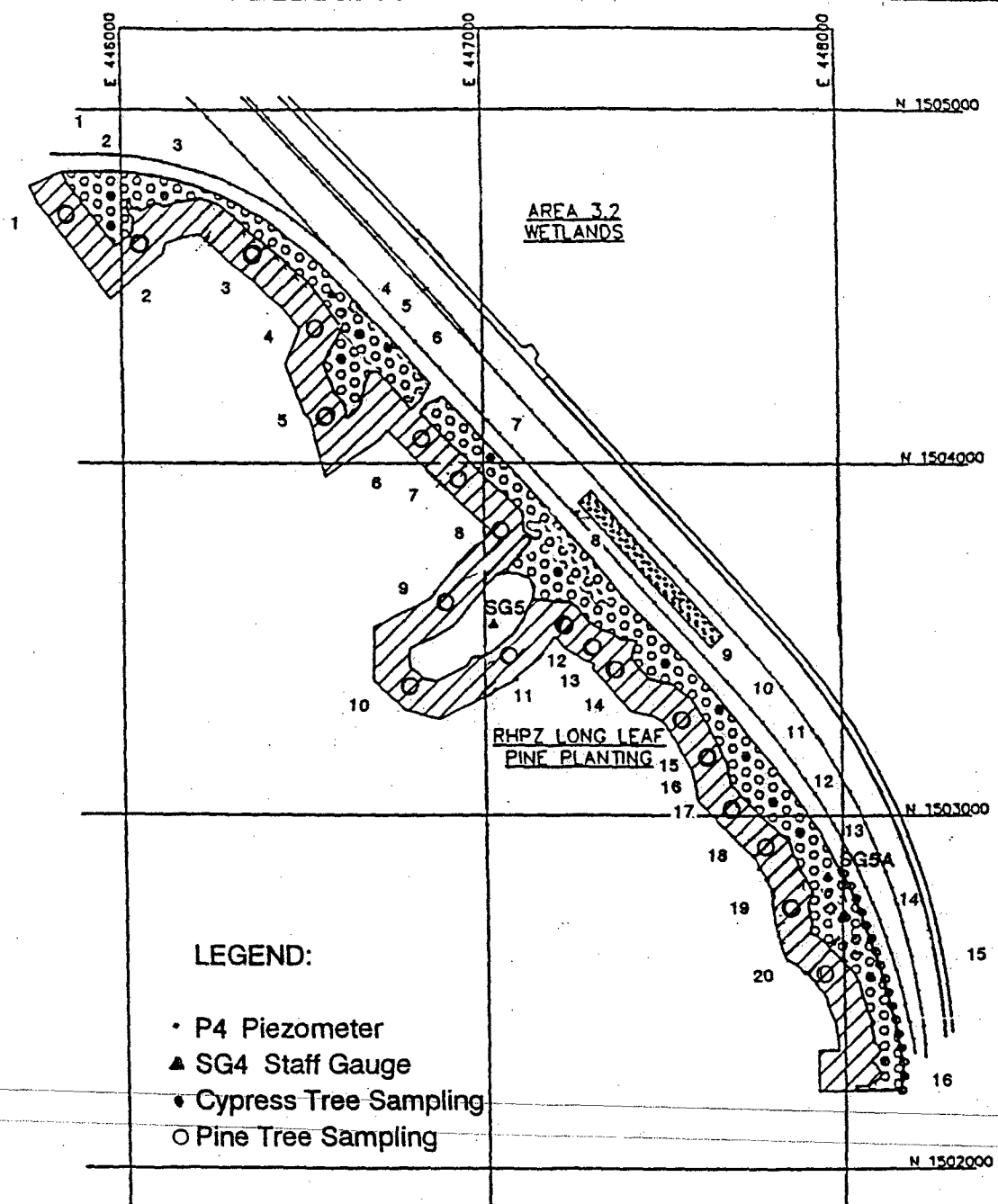
11/30/93 08:09:35
AUTSL002 72
11/30/93 08:09:35



LEGEND:



SURVEYOR		DRAWN										
CHECKED		DATE		NO	DATE	REVISIONS AND RECORD OF ISSUE			BY	CHK	APP	FLM
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2						PROJECT			DRAWING NUMBER		REV	
SITWORK - MITIGATION AREA 3.1						CODE						
						AREA						



LEGEND:

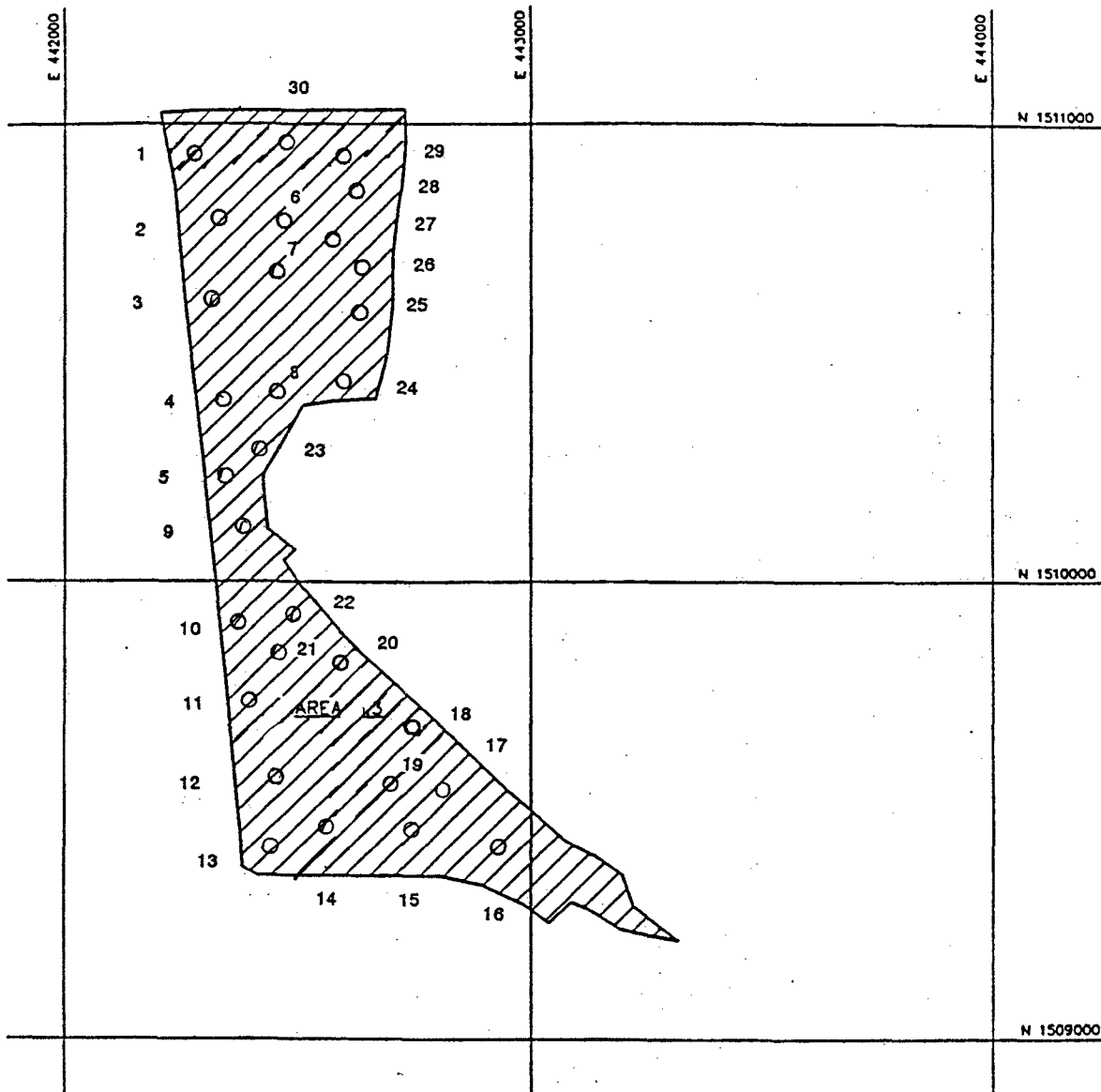
- P4 Piezometer
- ▲ SG4 Staff Gauge
- Cypress Tree Sampling
- Pine Tree Sampling

RAILROAD SOUTH (AREA 3.2)



SCALE 1" = 500'

SURVEYOR		DRAWN											
CHECKED		DATE											
				NO		DATE		REVISIONS AND RECORD OF ISSUE		BY		CHK APP FLM	
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2								PROJECT		DRAWING NUMBER		REV	
SITEWORK - MITIGATION AREA 3.2								CODE					
								AREA					



RCW-WEST (AREA 3.3)

LEGEND:

○ Pine Tree Sampling



SCALE 1" = 400'

SURVEYOR		DRAWN									
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY	
										CHK	
										APP	
										FLM	
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2								PROJECT		DRAWING NUMBER	
SITWORK - MITIGATION AREA 3.3								CODE			
								AREA			

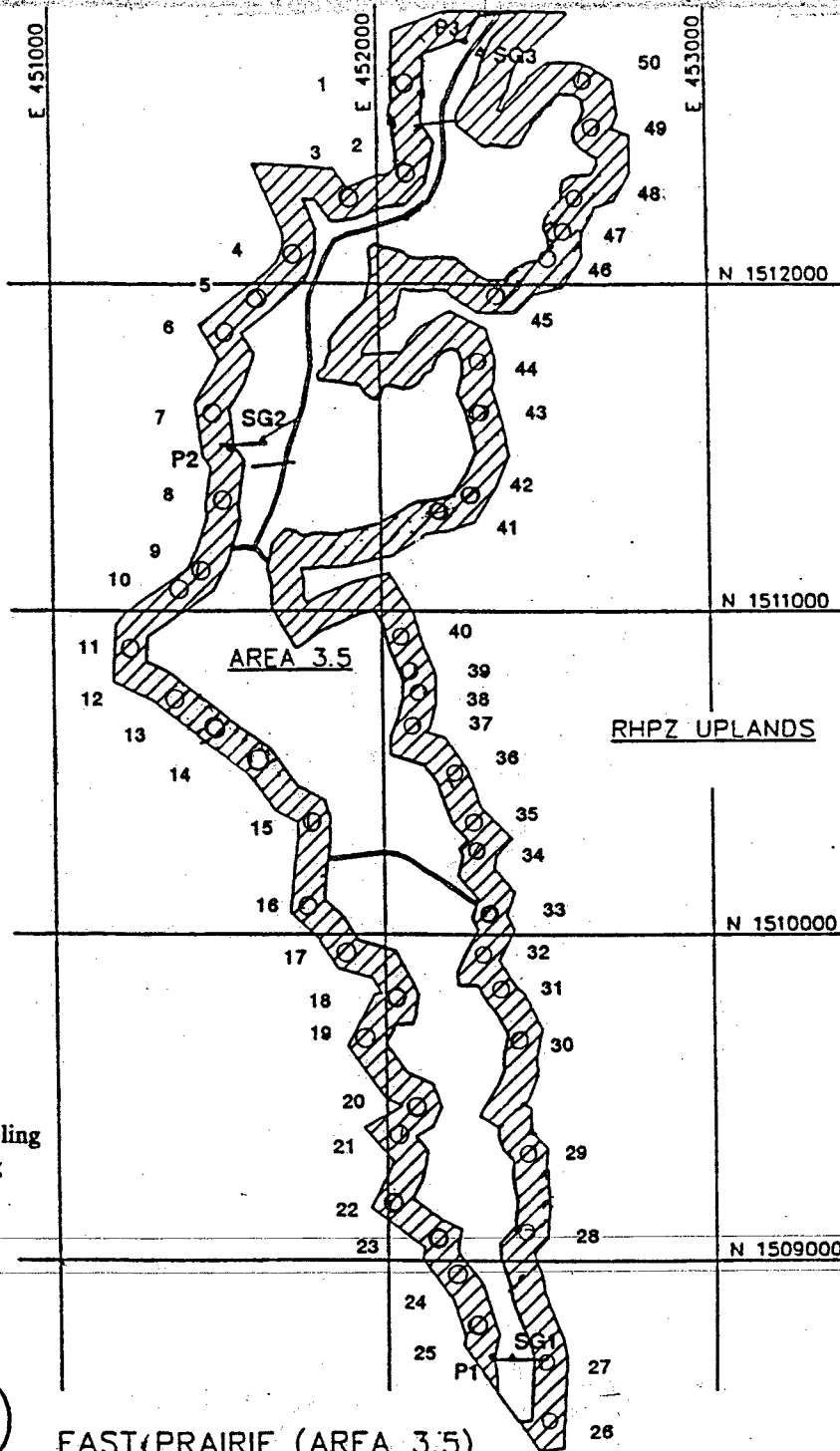
Legend:

P4 Piezometer
 SG4 Staff Gauge
 Cypress Tree Sampling
 Pine Tree Sampling

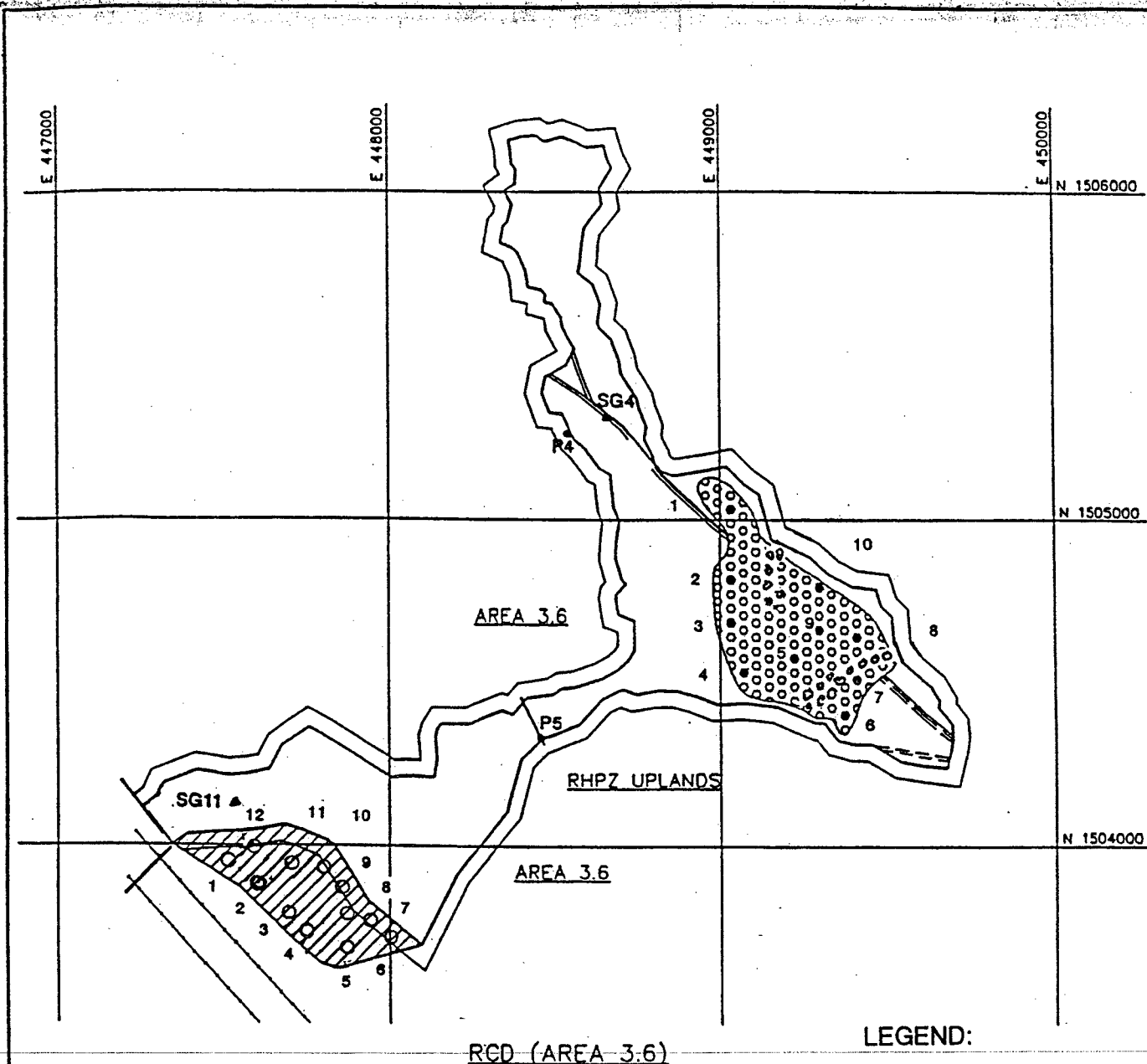


SCALE 1" = 600'

EAST PRAIRIE (AREA 3.5)



SURVEYOR		DRAWN									
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY	
										CHK	
										APP	
										FLM	
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2								PROJECT		DRAWING NUMBER	
SITEWORK - MITIGATION AREA 3.5								CODE		REV	
								AREA			



LEGEND:

- P4 Piezometer
- ▲ SG4 Staff Gauge
- Cypress Tree Sampling
- Pine Tree Sampling



SCALE 1" = 600'

SURVEYOR		DRAWN									
CHECKED		DATE		NO		DATE		REVISIONS AND RECORD OF ISSUE		BY	
										CHK	
										APP	
										FLM	
ORLANDO UTILITIES COMMISSION STANTON ENERGY CENTER - UNIT 2								PROJECT		DRAWING NUMBER	
SITWORK - MITIGATION AREA 3.6								CODE		REV	
								AREA			

**Orlando Utilities Commission
Stanton Energy Center Unit 2
Mitigation Monitoring Permanent Photo Locations**

<u>Mitigation Site</u>	<u>Location</u>	<u>Instructions</u>
3.1 (North)	East end of cypress planting area; northern portion of area 20m south and 10m east of single mature pine tree	Panoramic photos including cypress planting area
3.1 (South)	Southern end of mitigation area, south of cypress dome; longleaf pine planting area	Panoramic photos including pine planting area
3.2 (North)	On RR berm, 13.5m east of staff gauge S7	Panoramic photos of cypress planting area
3.2 (Cypress Dome)	On wetland border aligned with transect across center of cypress dome, 23m south of staff gauge S2	Panoramic photos of pine planting area and cypress dome
3.2 (South)	On RR berm, 9m east-northeast of staff gauge 5A	Panoramic photos of cypress planting area
3.3	Northwest corner of site	Panoramic photos of pine planting area
3.3	Southwest corner of site	Panoramic photos of pine planting area
3.5 (North)	At transect 12B	Panoramic photos generally facing south, taken from filled ditch
3.5 (South)	At transect 5	Panoramic photos taken from west end of transect
3.6E (North)	At transect 15	Panoramic photos taken from west end of transect
3.6E (South)	At transect 24	Panoramic photos taken from west end of transect
3.6	Near piezometer 5	Panoramic photos facing into wetland enhancement area
3.7	Near piezometer 6	360° Panoramic photos
3.7	Near piezometer 7	360° Panoramic photos

Table D-1

Pine inventory in the longleaf pine seedling planting area within Mitigation Area 3.1 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

Plot Number	Total Live Trees	Live Trees per Acre
1	0	0
2	0	0
3	0	0
4	3	75
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	1	25
11	0	0
12	0	0
13	1	25
14	2	50
15	0	0
16	2	50
17	3	75
18	0	0
19	1	25
20	1	25
Total	14	18

Table D-2

Pine inventory in the longleaf pine seedling planting area within Mitigation Area 3.2 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

Plot Number	Total Live Trees	Live Trees per Acre
1	8	200
2	1	25
3	2	50
4	12	300
5	15	375
6	20	500
7	24	600
8	7	175
9	9	225
10	4	100
11	7	175
12	1	25
13	1	25
14	4	100
15	15	375
16	0	0
17	9	225
18	19	475
19	25	625
20	0	0
Total	183	229

Table D-3

Pine inventory in the longleaf pine seedling planting area within Mitigation Area 3.3 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

Plot Number	Total Live Trees	Live Trees per Acre
1	12	240
2	1	20
3	3	60
4	0	0
5	0	0
6	3	60
7	0	0
8	1	20
9	0	0
10	1	20
11	8	160
12	4	80
13	2	40
14	7	140
15	15	300
16	33	660
17	8	160
18	2	40
19	6	120
20	4	80
21	2	40
22	8	160
23	9	180
24	0	0
25	3	60
26	1	20
27	3	60
28	11	220
29	8	160
30	4	80
Total	159	106

Table D-4

Pine inventory in the longleaf pine seedling planting area within Mitigation Area 3.5 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

Plot Number	Total Live Trees	Live Trees per Acre
1	7	280
2	15	600
3	7	280
4	9	360
5	2	80
6	8	320
7	2	80
8	2	80
9	6	240
10	4	160
11	6	240
12	10	400
13	3	120
14	0	0
15	5	200
16	1	40
17	4	160
18	9	360
19	6	240
20	9	360
21	5	200
22	0	0
23	0	0
24	2	80
25	0	0
26	1	40
27	5	200
28	1	40
29	3	120
30	3	120
31	11	440
32	4	160
33	4	160
34	3	120
35	4	160
36	2	80
37	11	440
38	1	40
39	1	40
40	0	0

Table D-4 (Continued)

Pine inventory in the longleaf pine seedling planting area within Mitigation Area 3.5 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

Plot Number	Total Live Trees	Live Trees per Acre
41	3	120
42	5	200
43	3	120
44	1	40
45	2	80
46	1	40
47	1	40
48	1	40
49	3	120
50	7	280
Total	203	162

Table D-5

Pine inventory in the longleaf pine seedling planting area within Mitigation Area 3.6 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

Plot Number	Total Live Trees	Live Trees per Acre
1	4	200
2	10	500
3	7	350
4	0	0
5	6	300
6	1	50
7	3	150
8	0	0
9	6	300
10	6	300
11	6	300
12	2	100
Total	51	213

Table D-6
Cypress inventory in the pond cypress seedling planting area within Mitigation Area 3.1 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

Plot Number	Total Live Trees	Live Trees per Acre	Canopy Cover
Northern Planting Area			
1	0	0	0%
2	1	100	4%
3	2	200	7%
4	2	200	6%
5	2	200	6%
Total	7	140	5%
Southern Planting Area			
1	15	600	1%
2	13	520	1%
3	5	200	0%
4	5	200	0%
5	5	200	0%
6	21	840	5%
Total	64	427	1%
Mitigation Area Total			
Total	71	296	2%

Table D-7
Cypress inventory in the pond cypress seedling planting area within Mitigation Area 3.2 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

Plot Number	Total Live Trees	Live Trees per Acre	Canopy Cover
1	19	475	18%
2	23	575	22%
3	17	425	14%
4	38	950	5%
5	9	225	2%
6	1	25	0%
7	7	175	6%
8	6	150	8%
9	13	325	6%
10	26	650	8%
11	1	25	2%
12	6	150	8%
13	14	350	20%
14	11	275	12%
15	22	550	15%
16	19	475	21%
Total	232	363	10%

Table D-8
Cypress inventory in the pond cypress seedling planting area within Mitigation Area 3.6 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

Plot Number	Total Live Trees	Live Trees per Acre	Canopy Cover
1	18	450	1%
2	14	350	0%
3	24	600	3%
4	16	400	4%
5	15	375	4%
6	19	475	4%
7	14	350	2%
8	9	225	1%
9	23	575	2%
10	12	300	1%
Total	164	410	2%

Table D-1

Pine inventory in the longleaf pine seedling planting area within Mitigation Area 3.1 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

Plot Number	Total Live Trees	Live Trees per Acre
1	0	0
2	0	0
3	0	0
4	3	75
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	1	25
11	0	0
12	0	0
13	1	25
14	2	50
15	0	0
16	2	50
17	3	75
18	0	0
19	1	25
20	1	25
Total	14	18

Table D-2

Pine inventory in the longleaf pine seedling planting area within Mitigation Area 3.2 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

Plot Number	Total Live Trees	Live Trees per Acre
1	8	200
2	1	25
3	2	50
4	12	300
5	15	375
6	20	500
7	24	600
8	7	175
9	9	225
10	4	100
11	7	175
12	1	25
13	1	25
14	4	100
15	15	375
16	0	0
17	9	225
18	19	475
19	25	625
20	0	0
Total	183	229

Table D-3

Pine inventory in the longleaf pine seedling planting area within Mitigation Area 3.3 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

Plot Number	Total Live Trees	Live Trees per Acre
1	12	240
2	1	20
3	3	60
4	0	0
5	0	0
6	3	60
7	0	0
8	1	20
9	0	0
10	1	20
11	8	160
12	4	80
13	2	40
14	7	140
15	15	300
16	33	660
17	8	160
18	2	40
19	6	120
20	4	80
21	2	40
22	8	160
23	9	180
24	0	0
25	3	60
26	1	20
27	3	60
28	11	220
29	8	160
30	4	80
Total	159	106

Table D-4

Pine inventory in the longleaf pine seedling planting area within Mitigation Area 3.5 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

Plot Number	Total Live Trees	Live Trees per Acre
1	7	280
2	15	600
3	7	280
4	9	360
5	2	80
6	8	320
7	2	80
8	2	80
9	6	240
10	4	160
11	6	240
12	10	400
13	3	120
14	0	0
15	5	200
16	1	40
17	4	160
18	9	360
19	6	240
20	9	360
21	5	200
22	0	0
23	0	0
24	2	80
25	0	0
26	1	40
27	5	200
28	1	40
29	3	120
30	3	120
31	11	440
32	4	160
33	4	160
34	3	120
35	4	160
36	2	80
37	11	440
38	1	40
39	1	40
40	0	0

Table D-4 (Continued)

Pine inventory in the longleaf pine seedling planting area within Mitigation Area 3.5 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

Plot Number	Total Live Trees	Live Trees per Acre
41	3	120
42	5	200
43	3	120
44	1	40
45	2	80
46	1	40
47	1	40
48	1	40
49	3	120
50	7	280
Total	203	162

Table D-5

Pine inventory in the longleaf pine seedling planting area within Mitigation Area 3.6 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

Plot Number	Total Live Trees	Live Trees per Acre
1	4	200
2	10	500
3	7	350
4	0	0
5	6	300
6	1	50
7	3	150
8	0	0
9	6	300
10	6	300
11	6	300
12	2	100
Total	51	213

Table D-6
Cypress inventory in the pond cypress seedling planting area within Mitigation Area 3.1 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

Plot Number	Total Live Trees	Live Trees per Acre	Canopy Cover
Northern Planting Area			
1	0	0	0%
2	1	100	4%
3	2	200	7%
4	2	200	6%
5	2	200	6%
Total	7	140	5%
Southern Planting Area			
1	15	600	1%
2	13	520	1%
3	5	200	0%
4	5	200	0%
5	5	200	0%
6	21	840	5%
Total	64	427	1%
Mitigation Area Total			
Total	71	296	2%

Table D-7
Cypress inventory in the pond cypress seedling planting area within Mitigation Area 3.2 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

Plot Number	Total Live Trees	Live Trees per Acre	Canopy Cover
1	19	475	18%
2	23	575	22%
3	17	425	14%
4	38	950	5%
5	9	225	2%
6	1	25	0%
7	7	175	6%
8	6	150	8%
9	13	325	6%
10	26	650	8%
11	1	25	2%
12	6	150	8%
13	14	350	20%
14	11	275	12%
15	22	550	15%
16	19	475	21%
Total	232	363	10%

Table D-8
Cypress inventory in the pond cypress seedling planting area within Mitigation Area 3.6 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

Plot Number	Total Live Trees	Live Trees per Acre	Canopy Cover
1	18	450	1%
2	14	350	0%
3	24	600	3%
4	16	400	4%
5	15	375	4%
6	19	475	4%
7	14	350	2%
8	9	225	1%
9	23	575	2%
10	12	300	1%
Total	164	410	2%

Table D-9
Percent cover data collected in April 2003 in the cypress seedling plots within Mitigation Area 3.1 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

		Plot / Quadrat Number											Percent	Percent	Percent
	USFWS Indicator	North					South						Cover	Cover	Cover
Species	Status	1	2	3	4	5	1	2	3	4	5	6	North	South	Total
Andropogon glomeratus	FACW+		5	45			15		25	25	10	10	10.0%	14.2%	12.3%
Calopogon sp.	FACW								5	5			0.0%	1.7%	0.9%
Centella asiatica	FACW						20	20	5		10		0.0%	9.2%	5.0%
Cyperus spp.	FACW					20							4.0%	0.0%	1.8%
Drosera capillaris	OBL						5	5	5	20	15		0.0%	8.3%	4.5%
Eriocaulon spp.	OBL						10					20	0.0%	5.0%	2.7%
Eragrostis hypnoides	OBL								20	20	20	20	0.0%	13.3%	7.3%
Eupatorium capillifolium	FACU			15	50	5							14.0%	0.0%	6.4%
Euthamia minor	FAC	1	15		5	5							5.2%	0.0%	2.4%
Galactia elliotii	FACU					5							1.0%	0.0%	0.5%
Hypericum spp.	FACW				5		10		10	10	20	20	1.0%	11.7%	6.8%
Lacnanthes caroliniana	OBL								5	5		5	0.0%	2.5%	1.4%
Lycopodium alopecuroides	OBL						5	10					0.0%	2.5%	1.4%
Mikania scandens	FACW			5									1.0%	0.0%	0.5%
Myriophyllum aquaticum	OBL						5		5			5	0.0%	2.5%	1.4%
Paspalum notatum	FACU+	99	80	35	5	10							45.8%	0.0%	20.8%
Pinus palustris	FACU+				20								4.0%	0.0%	1.8%
Pluchea rosea	FACW					5		5		5	5	5	1.0%	3.3%	2.3%
Pterocaulon pycnostachyum	FAC-				5								1.0%	0.0%	0.5%
Rhynchospora spp.	FACW						20	40			5		0.0%	10.8%	5.9%
Scoparia dulcis	FAC					5							1.0%	0.0%	0.5%
Xyris spp.	OBL						5	20	5	5	10		0.0%	7.5%	4.1%
Bare ground					10	45	5		15	5	5		11.0%	5.0%	7.7%
Open water												15	0.0%	2.5%	1.4%
Total		100	100	100	100	100	100	100	100	100	100	100	100.0%	100.0%	100.0%

Table D-10

Percent cover data collected in April 2003 in the cypress seedling plots within Mitigation Area 3.2 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

	USFWS Indicator	Plot / Quadrat Number																Percent
Species	Status	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Cover
<i>Andropogon glomeratus</i>	FACW+	10			10						5		10	5		10		3.1%
<i>Bacharis halimifolia</i>	FAC							5										0.3%
<i>Centella asiatica</i>	FACW															5		0.3%
<i>Cyperus haspan</i>	OBL							5										0.3%
<i>Drosera capillaris</i>	OBL															5		0.3%
<i>Panicum scabrinsculum</i>	OBL										80							5.0%
<i>Erianthus giganteus</i>	FACW											10						0.6%
<i>Eriocaulon decangulare</i>	FACW-						50						10			5		4.1%
<i>Eragrostis elliottii</i>	FACW			30	10	20		10		10			20					6.3%
<i>Euthamia minor</i>	FAC									10								0.6%
<i>Hypericum fasciculatum</i>	FACW+				20					5			10	5	30			4.4%
<i>Lacnanthes caroliniana</i>	OBL	10																0.6%
<i>Lyonia lucida</i>	FACW						20											1.3%
<i>Myriophyllum aquaticum</i>	OBL	10							5									0.9%
<i>Pinus elliottii</i>	FACW															5		0.3%
<i>Pluchea rosea</i>	FACW	20	20			10						10	10			10		5.0%
<i>Polygala lutea</i>	FACW+						5											0.3%
<i>Polygonum punctatum</i>	FACW+								10									0.6%
<i>Rhynchospora chapmanii</i>	OBL	10	40	10		30		10		65		10		10				11.6%
<i>Sagittaria graminea</i>	OBL								5			20						1.6%
<i>Taxodium distichum</i>	OBL					10												0.6%
<i>Xyris jupicai</i>	OBL	5		40	40	20	5								60	30	80	17.5%
Bare ground		35	40	20	20	10	20	70		10	15		30		10	45	5	20.6%
Open water									80			50	10	80				13.8%
Total		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100.0%

Table D-11
Percent cover data collected in April 2003 in the cypress seedling plots within Mitigation Area 3.6 at the Curtis H. Stanton Energy Center, Orange County, Florida. Data collected in April 2003.

	USFWS Indicator	Plot / Quadrat Number										Percent
Species	Status	1	2	3	4	5	6	7	8	9	10	Cover
Andropogon glomeratus	FACW+	5	80		20			20	40		20	18.5%
Aristida beyrichiana	FAC-	95		30		30	40	30	40	30	30	32.5%
Centella asiatica	FACW		5									0.5%
Cyperus polystachyos	FACW				10	20			20			5.0%
Eriocaulon decangulare	OBL				10	30	20	30		40	10	14.0%
Hypericum fasciculatum	FACW+			20	20			15		10	10	7.5%
Myrica cerifeca	FAC+						30					3.0%
Pluchea rosea	FACW			5		5	5					1.5%
Rhynchospora inundata	OBL			10						20	20	5.0%
Taxodium ascendens	OBL		15									1.5%
Xyris jupicai	OBL			5	10	10						2.5%
Bare ground							5	5				1.0%
Open water				30	30	5					10	7.5%
Total		100	100	100	100	100	100	100	100	100	100	100.0%





Figure E-1: Mitigation Area 3.1, south of railroad tracks.



Figure E-2: Mitigation Area 3.1 (South), southern end of mitigation area.



Figure E-3: Mitigation Area 3.2 (North), on railroad berm.



Figure E-4: Mitigation Area 3.2 (Cypress Dome), on wetland border south of Staff Gauge 5.



Figure E-5: Mitigation Area 3.2 (South), on railroad berm northeast of Staff Gauge 5A.



Figure E-6: Mitigation Area 3.3, northwest corner of site.



Figure E-7: Mitigation Area 3.3, southwest corner of site.



Figure E-8: Mitigation Area 3.5 (North), at Transect 12B.



Figure E-9: Mitigation Area 3.5 (South), at Transect 5.



Figure E-10: Mitigation Area 3.6E (North), at Transect 15.

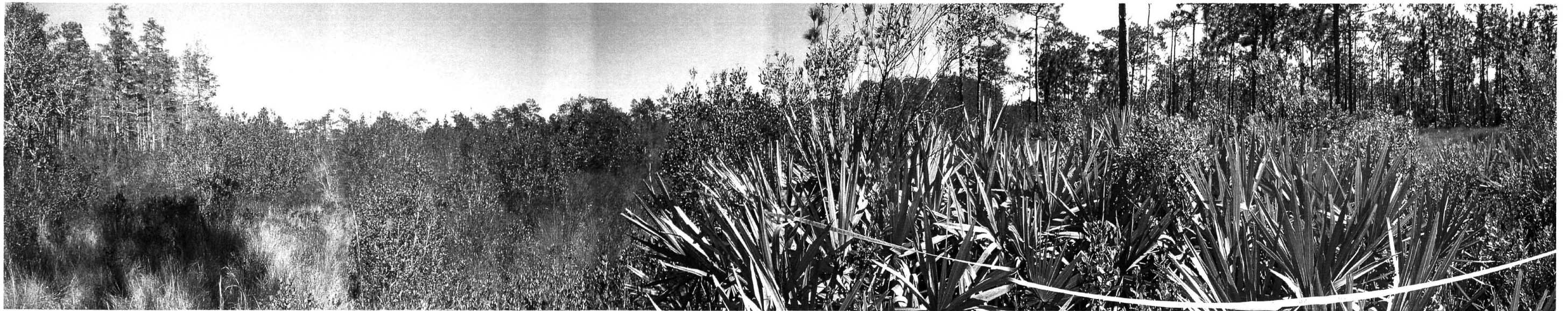


Figure E-11: Mitigation Area 3.6E (South), at Transect 24.



Figure E-12: Mitigation Area 3.6, near Piezometer 5.



Figure E-13: Mitigation Area 3.7, near Piezometer 6.



Figure E-14: Mitigation Area 3.7, near Piezometer 7.

Table F -1: Percent cover data collected in October 2003 for the vegetative plots located in Mitigation Area 3.5 at the Curtis H. Stanton Energy Center, Orange County, Florida.

[illegible]

Table F-2: Percent cover data collected in October 2003 for the vegetative plots in Mitigation Area 3.6 at the Curtis H. Stanton Energy Center, Orange County, Florida.

[illegible]

Table F-2: Percent cover data collected in October 2003 for the vegetative plots in Mitigation Area 3.6 at the Curtis H. Stanton Energy Center, Orange County, Florida.

[illegible]

Appendix G – Regression Analyses for Vegetative Plot Data from 1994-2003

Appendix G: Regression Analysis and Analysis of Variance (ANOVA) of mean annual relative percent wetland cover versus monitoring year for Mitigation Area 3.5 and Mitigation Area 3.6 at the Curtis H. Stanton Energy Center. Each set of plots (1 through 5) were analyzed individually and the results are presented below. The t-statistic and associated P-value shown in each ANOVA indicate whether the slope (X Variable 1) of the regression line is significantly greater than zero.

Mitigation Area 3.5 No. 1 Plots

<i>Regression Statistics</i>	
Multiple R	0.293422252
R Square	0.086096618
Adjusted R Square	0.075711352
Standard Error	18.61754172
Observations	90

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	2873.5129	2873.5129	8.290266272	0.005003624
Residual	88	30501.93166	346.6128597		
Total	89	33375.44456			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-3760.209824	1312.7653	-2.864342792	0.005224299	-6369.057011	-1151.362636	-6369.057011	-1151.362636
X Variable 1	1.892274143	0.657203421	2.879282249	0.005003624	0.586219439	3.198328848	0.586219439	3.198328848

Mitigation Area 3.5 No. 2 Plots

<i>Regression Statistics</i>	
Multiple R	0.124017911
R Square	0.015380442
Adjusted R Square	0.004191584
Standard Error	16.12298446

Appendix G – Regression Analyses for Vegetative Plot Data from 1994-2003

Observations 90

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	357.3336449	357.3336449	1.374621204	0.244183645
Residual	88	22875.65524	259.9506278		
Total	89	23232.98889			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-1305.122326	1136.868381	-1.147997734	0.254080723	-3564.411081	954.1664289	-3564.411081	954.1664289

Mitigation Area 3.5 No. 3 Plots

Regression Statistics

Multiple R	0.244888016
R Square	0.05997014
Adjusted R Square	0.051017475
Standard Error	25.56748202
Observations	107

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	4378.835537	4378.835537	6.698579493	0.011015013
Residual	105	68638.09437	653.6961369		
Total	106	73016.92991			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-4231.715682	1651.179681	-2.562843844	0.011799108	-7505.702303	-957.7290607	-7505.702303	-957.7290607
X Variable 1	2.139406639	0.826612525	2.588161412	0.011015013	0.500385533	3.778427744	0.500385533	3.778427744

Appendix G – Regression Analyses for Vegetative Plot Data from 1994-2003

Mitigation Area 3.5 No. 4 Plots

<i>Regression Statistics</i>	
Multiple R	0.578470085
R Square	0.334627639
Adjusted R Square	0.327066589
Standard Error	23.64199196
Observations	90

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	24737.04704	24737.04704	44.25677101	2.35455E-09
Residual	88	49187.05296	558.9437836		
Total	89	73924.1			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-11014.93645	1667.050737	-6.607439235	2.88691E-09	-14327.85204	-7702.020858	-14327.85204	-7702.020858
X Variable 1	5.552024922	0.834567647	6.652576269	2.35455E-09	3.893495817	7.210554028	3.893495817	7.210554028

Mitigation Area 3.5 No. 5 Plots

<i>Regression Statistics</i>	
Multiple R	0.315755258
R Square	0.099701383
Adjusted R Square	0.088009193
Standard Error	20.52512903
Observations	79

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	3592.337379	3592.337379	8.527177931	0.004587359

Appendix G – Regression Analyses for Vegetative Plot Data from 1994-2003

Residual	77	32438.63098	421.2809218
Total	78	36030.96835	

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-4435.257324	1547.74553	-2.865624379	0.005363273	-7517.216128	-1353.29852	-7517.216128	-1353.29852
X Variable 1	2.262673185	0.77485273	2.920133204	0.004587359	0.719742421	3.805603949	0.719742421	3.805603949

Mitigation Area 3.6 No. 1 Plots

<i>Regression Statistics</i>	
Multiple R	0.020827167
R Square	0.000433771
Adjusted R Square	-0.005813518
Standard Error	12.68202111
Observations	162

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	11.1672371	11.1672371	0.069433458	0.792502505
Residual	160	25733.38553	160.8336596		
Total	161	25744.55277			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-162.4673386	666.5258112	-0.243752509	0.807734763	-1478.791883	1153.857205	-1478.791883	1153.857205
X Variable 1	0.087925348	0.333679633	0.263502292	0.792502505	-0.57105992	0.746910616	-0.57105992	0.746910616

Mitigation Area 3.6 No. 2 Plots

<i>Regression Statistics</i>	
Multiple R	0.092581559
R Square	0.008571345

Appendix G – Regression Analyses for Vegetative Plot Data from 1994-2003

Adjusted R Square 0.003183146
Standard Error 18.74902395
Observations 186

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	559.1942015	559.1942015	1.590762453	0.208813967
Residual	184	64680.76543	351.5258991		
Total	185	65239.95963			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-1132.811448	919.6195582	-1.23182618	0.219585941	-2947.165265	681.5423697	-2947.165265	681.5423697
X Variable 1	0.580662249	0.460384746	1.261254317	0.208813967	-0.327649035	1.488973533	-0.327649035	1.488973533

Mitigation Area 3.6 No. 3 Plots

Regression Statistics

Multiple R 0.139185272
R Square 0.01937254
Adjusted R Square 0.013243618
Standard Error 23.30681634
Observations 162

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	1716.992534	1716.992534	3.160839902	0.077323793
Residual	160	86913.23004	543.2076877		
Total	161	88630.22257			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-2137.87154	1224.930516	-1.745300254	0.08285238	-4556.991814	281.2487334	-4556.991814	281.2487334
X Variable 1	1.090248331	0.613231112	1.777875109	0.077323793	-0.120824295	2.301320957	-0.120824295	2.301320957

Appendix G – Regression Analyses for Vegetative Plot Data from 1994-2003

Mitigation Area 3.6 No. 4 Plots

<i>Regression Statistics</i>	
Multiple R	0.183215783
R Square	0.033568023
Adjusted R Square	0.027038077
Standard Error	25.86175204
Observations	150

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	3438.207457	3438.207457	5.140628162	0.024820429
Residual	148	98986.87233	668.8302185		
Total	149	102425.0798			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-3134.081497	1412.532085	-2.21876836	0.028024815	-5925.41836	-342.744635	-5925.41836	-342.7446346
X Variable 1	1.603316063	0.70714919	2.267295341	0.024820429	0.205902424	3.000729702	0.205902424	3.000729702

Mitigation Area 3.6 No. 5 Plots

<i>Regression Statistics</i>	
Multiple R	0.231993271
R Square	0.053820878
Adjusted R Square	0.04537285
Standard Error	20.62253714
Observations	114

Appendix G – Regression Analyses for Vegetative Plot Data from 1994-2003

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	2709.440558	2709.440558	6.370821527	0.01300267
Residual	112	47632.37226	425.289038		
Total	113	50341.81281			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-3182.476428	1292.039158	-2.463142396	0.015294312	-5742.484814	-622.468042	-5742.484814	-622.4680421
X Variable 1	1.632623797	0.646827391	2.524048638	0.01300267	0.351019028	2.914228565	0.351019028	2.914228565

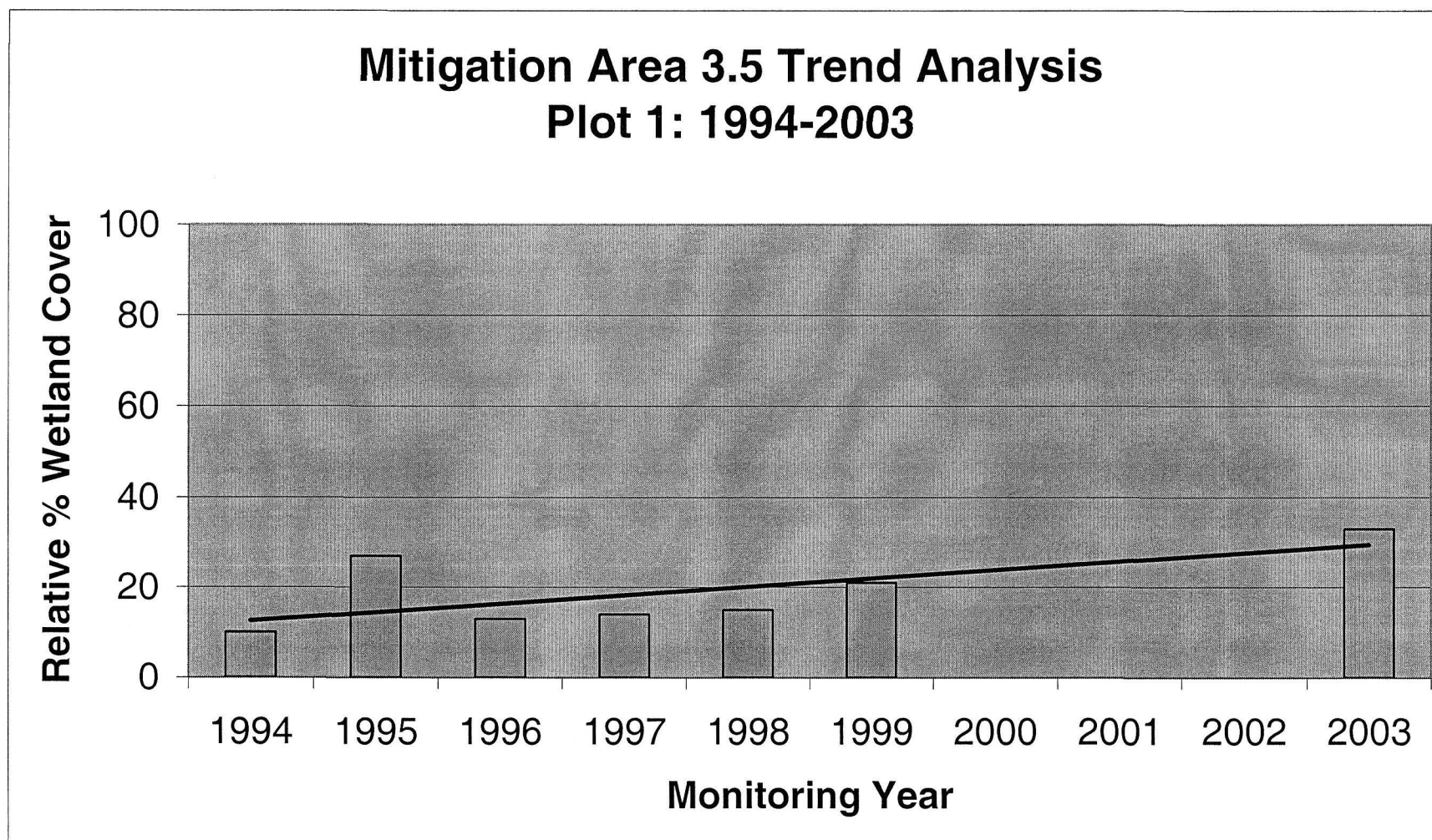


Figure G-1: Trend analysis comparing Plot 1 relative percent cover of wetland species by monitoring year at Mitigation Area 3.5.

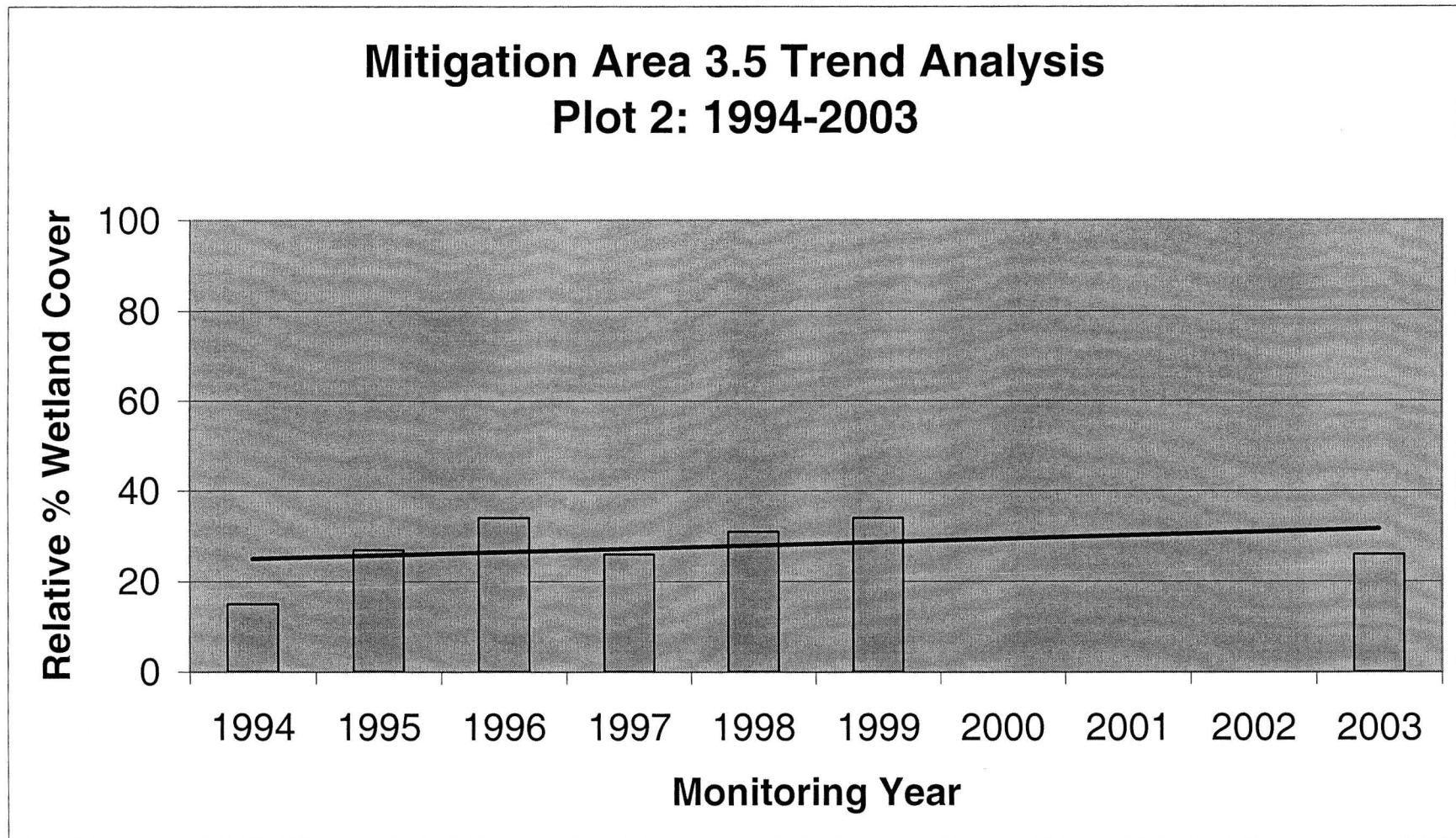


Figure G-2: Trend analysis comparing Plot 2 relative percent cover of wetland species by monitoring year at Mitigation Area 3.5.

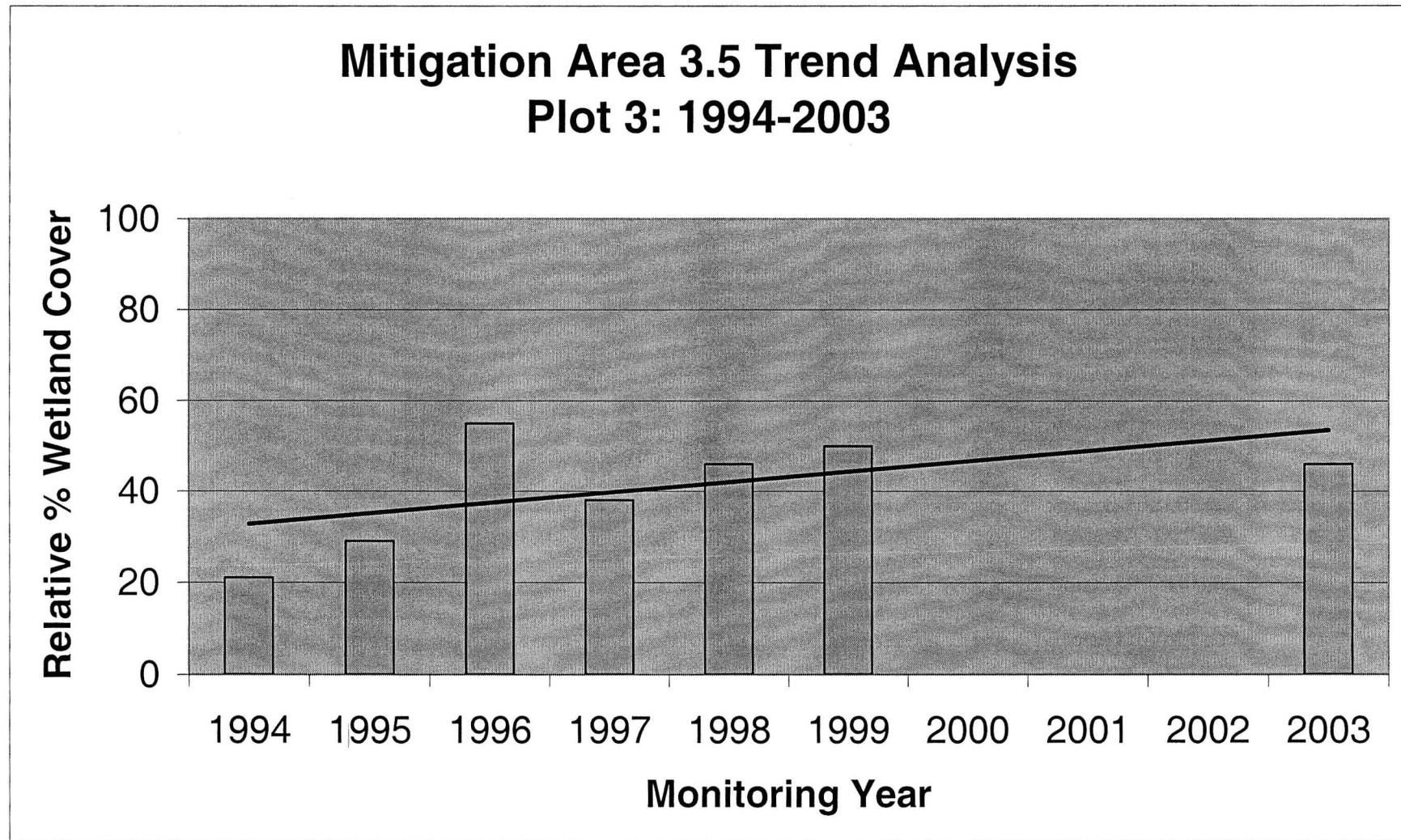


Figure G-3: Trend analysis comparing Plot 3 relative percent cover of wetland species by monitoring year at Mitigation Area 3.5.

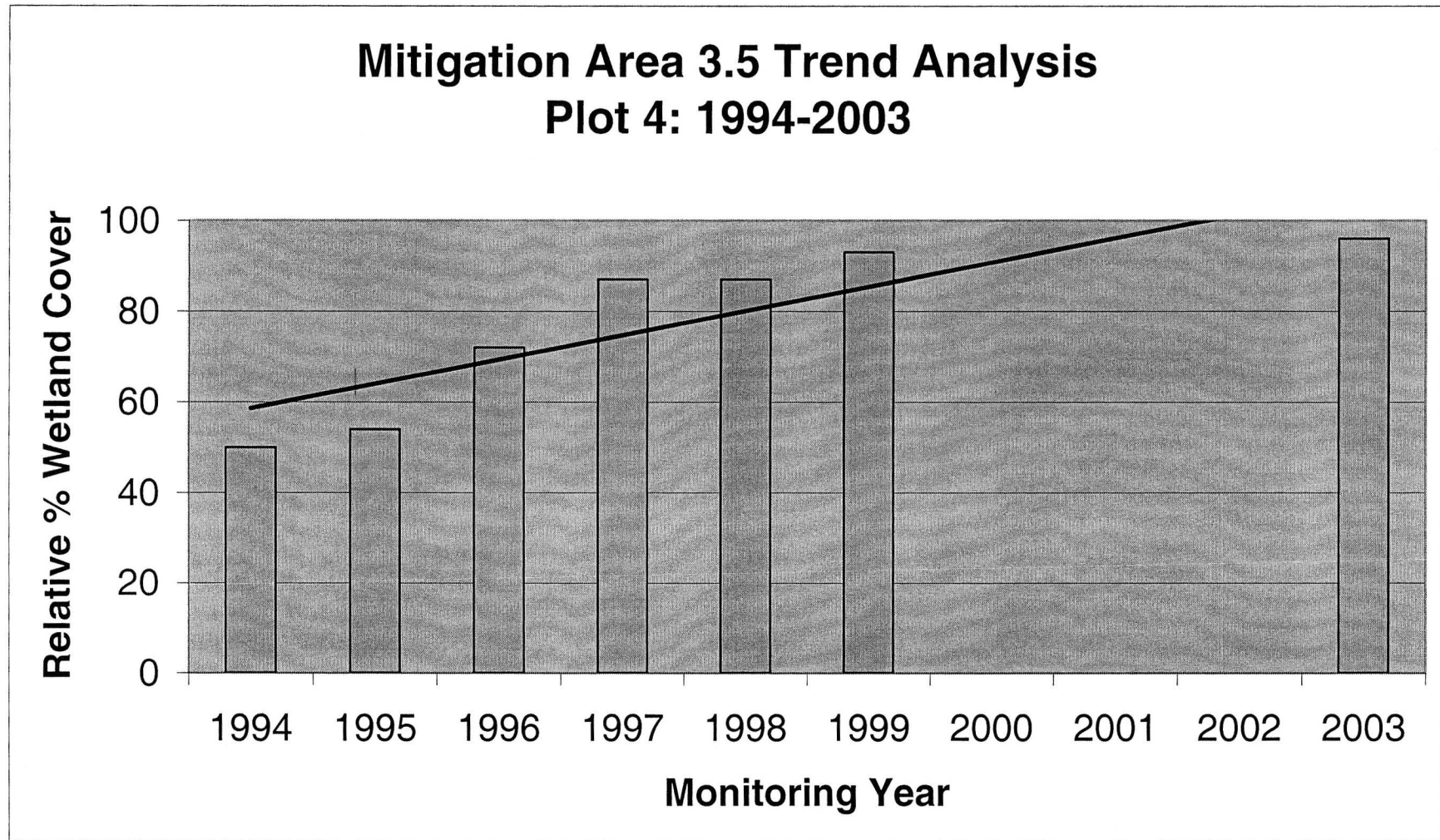


Figure G-4: Trend analysis comparing Plot 4 relative percent cover of wetland species by monitoring year at Mitigation Area 3.5.

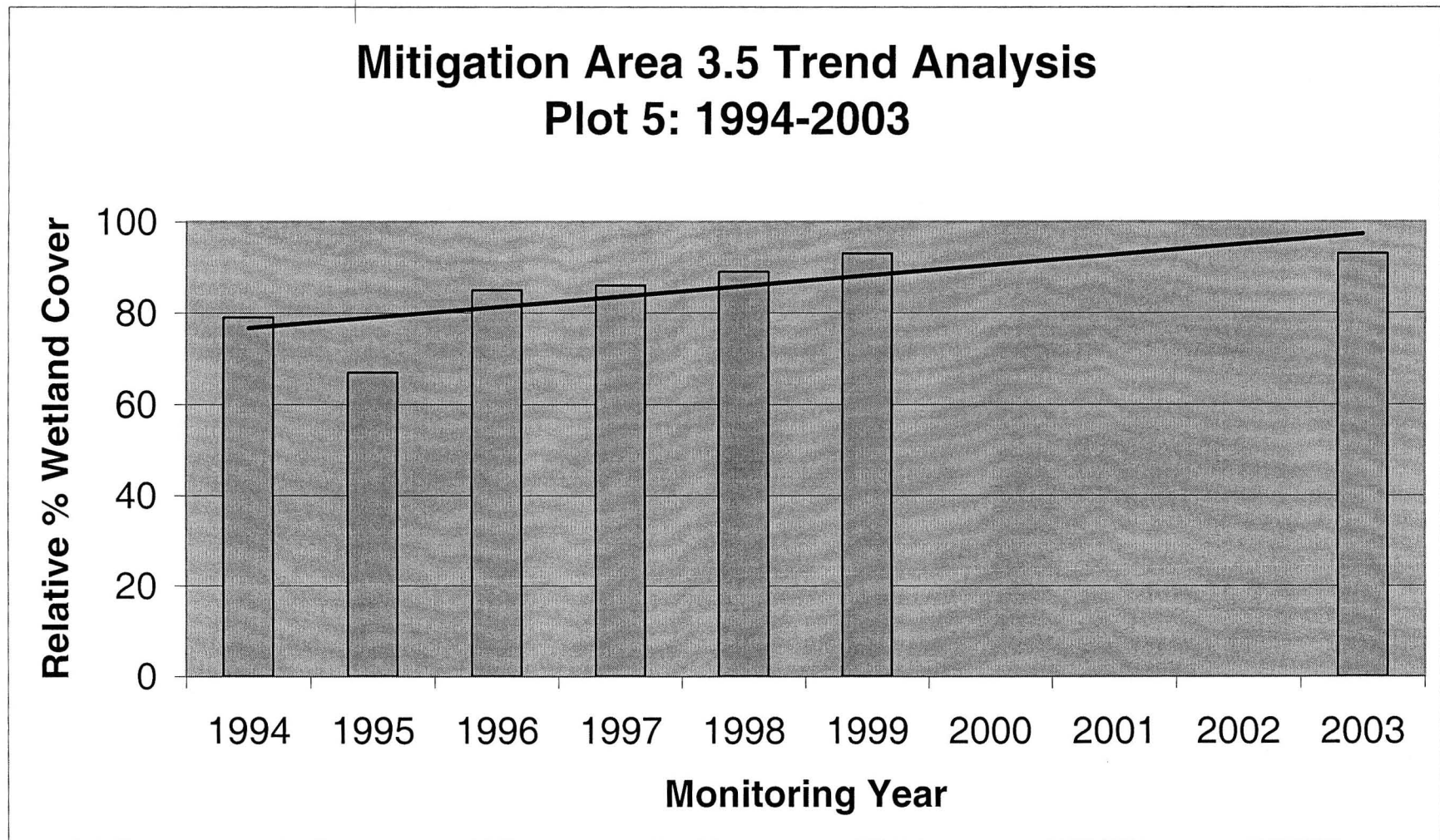


Figure G-5: Trend analysis comparing Plot 5 relative percent cover of wetland species by monitoring year at Mitigation Area 3.5.

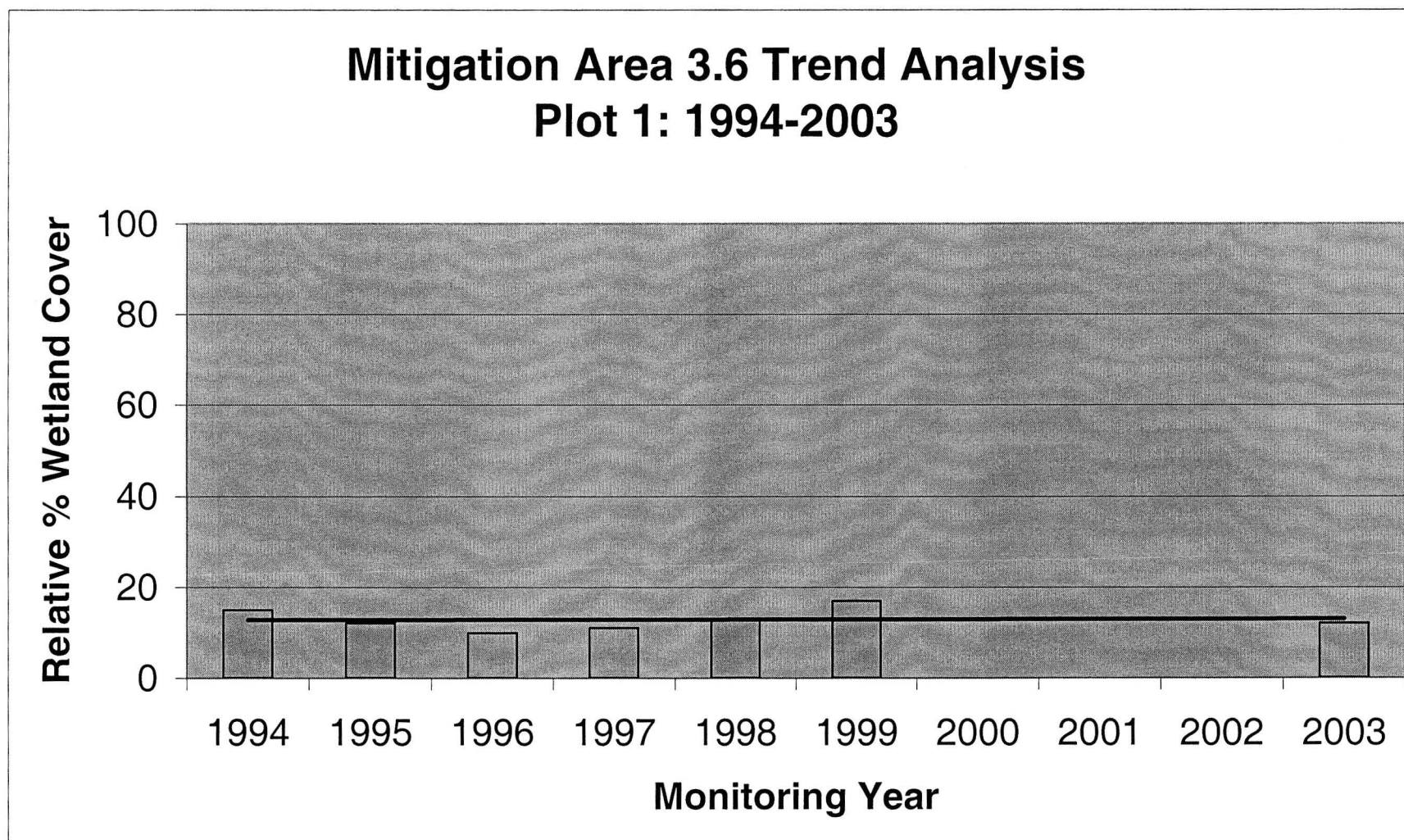


Figure G-6: Trend analysis comparing Plot 1 relative percent cover of wetland species by monitoring year at Mitigation Area 3.6.

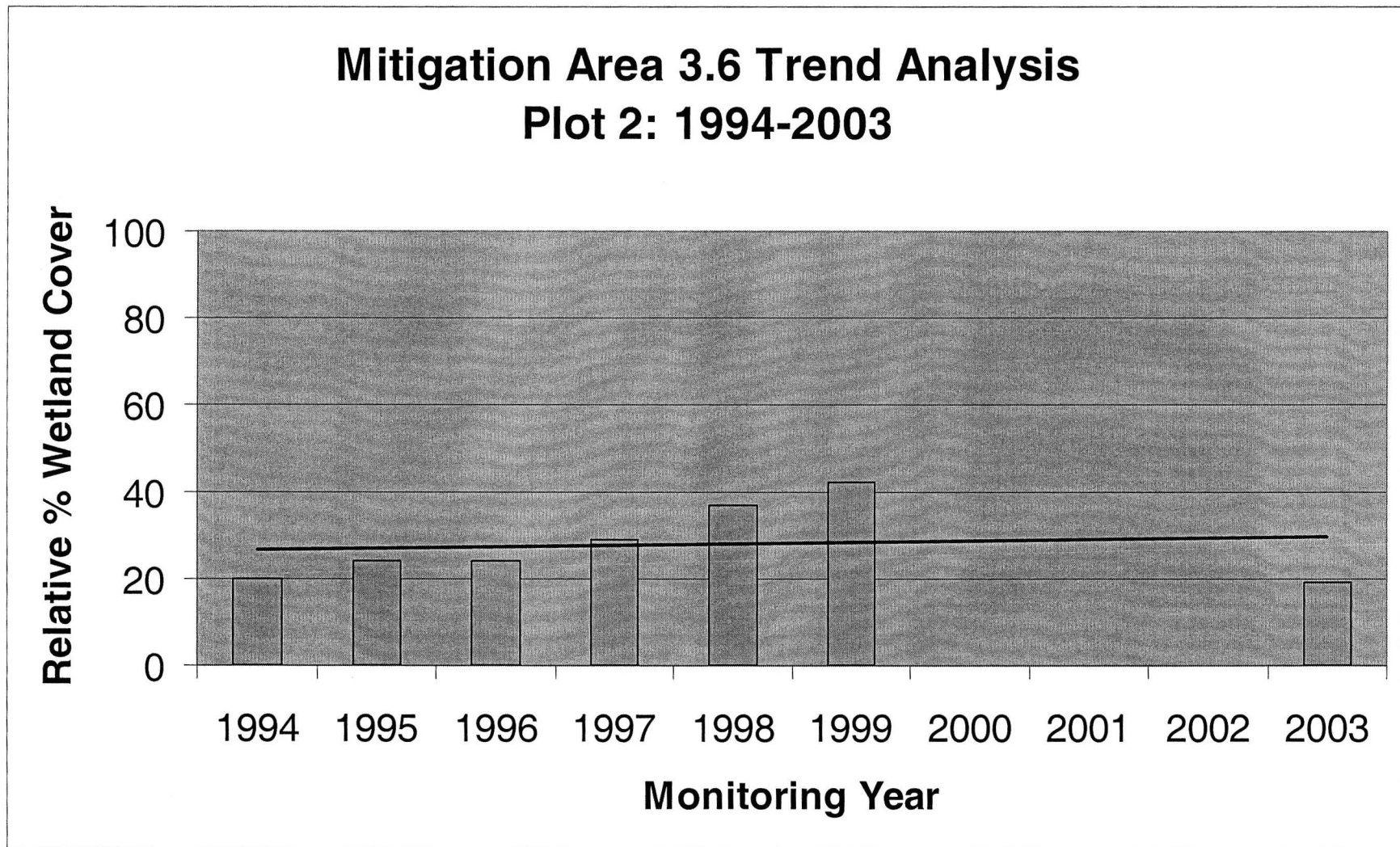


Figure G-7: Trend analysis comparing Plot 2 relative percent cover of wetland species by monitoring year at Mitigation Area 3.6.

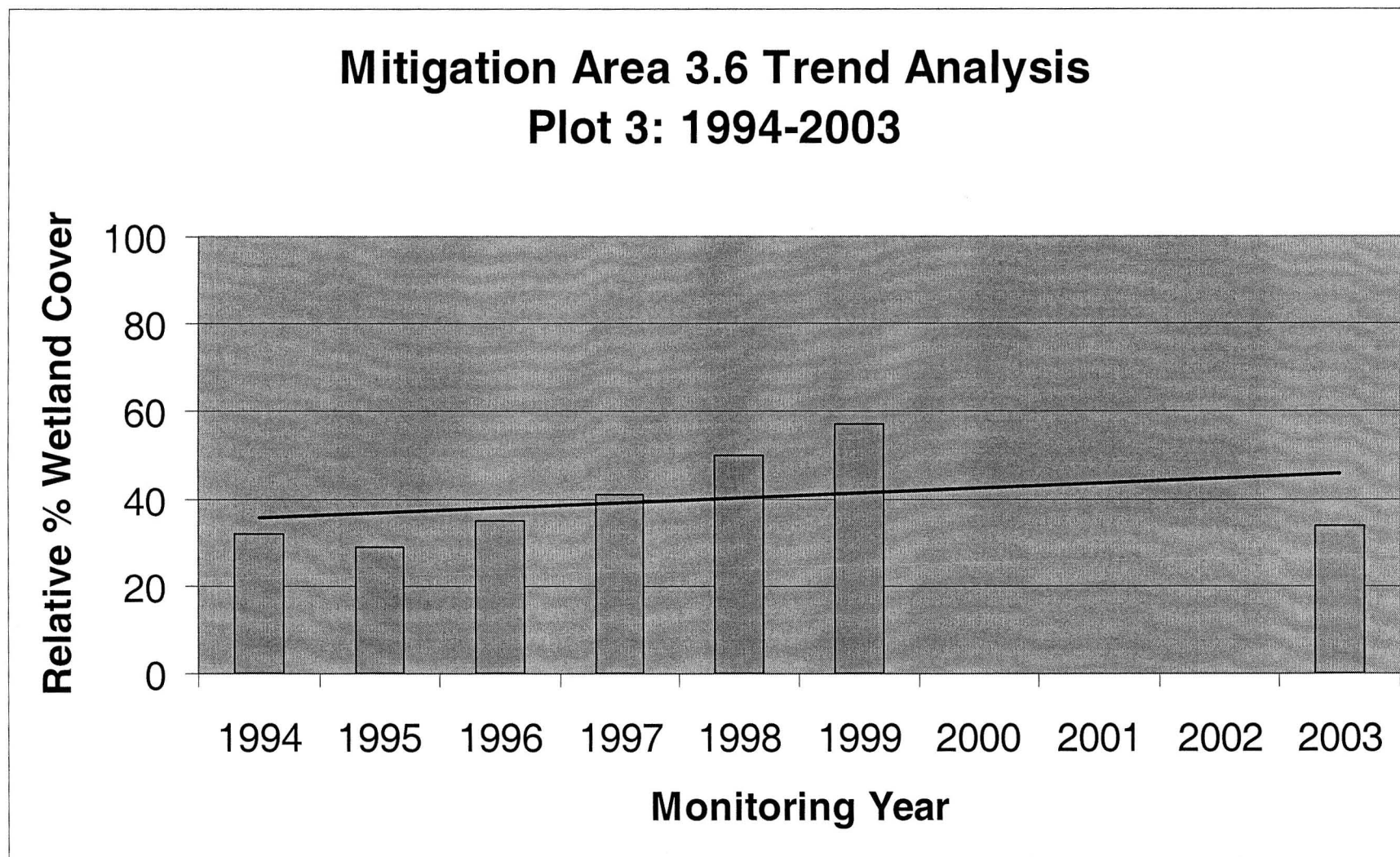


Figure G-8: Trend analysis comparing Plot 3 relative percent cover of wetland species by monitoring year at Mitigation Area 3.6.

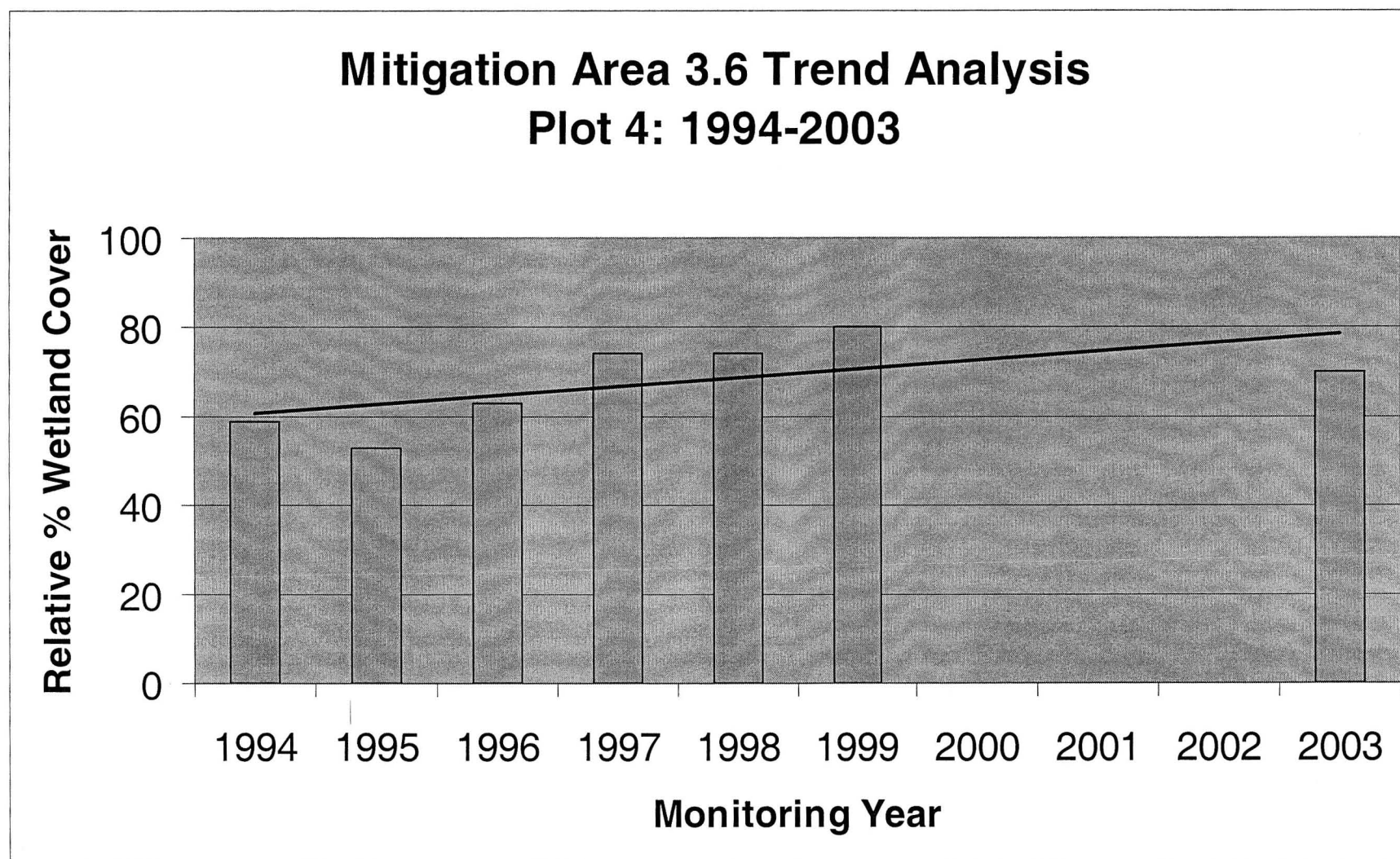


Figure G-9: Trend analysis comparing Plot 4 relative percent cover of wetland species by monitoring year at Mitigation Area 3.6.

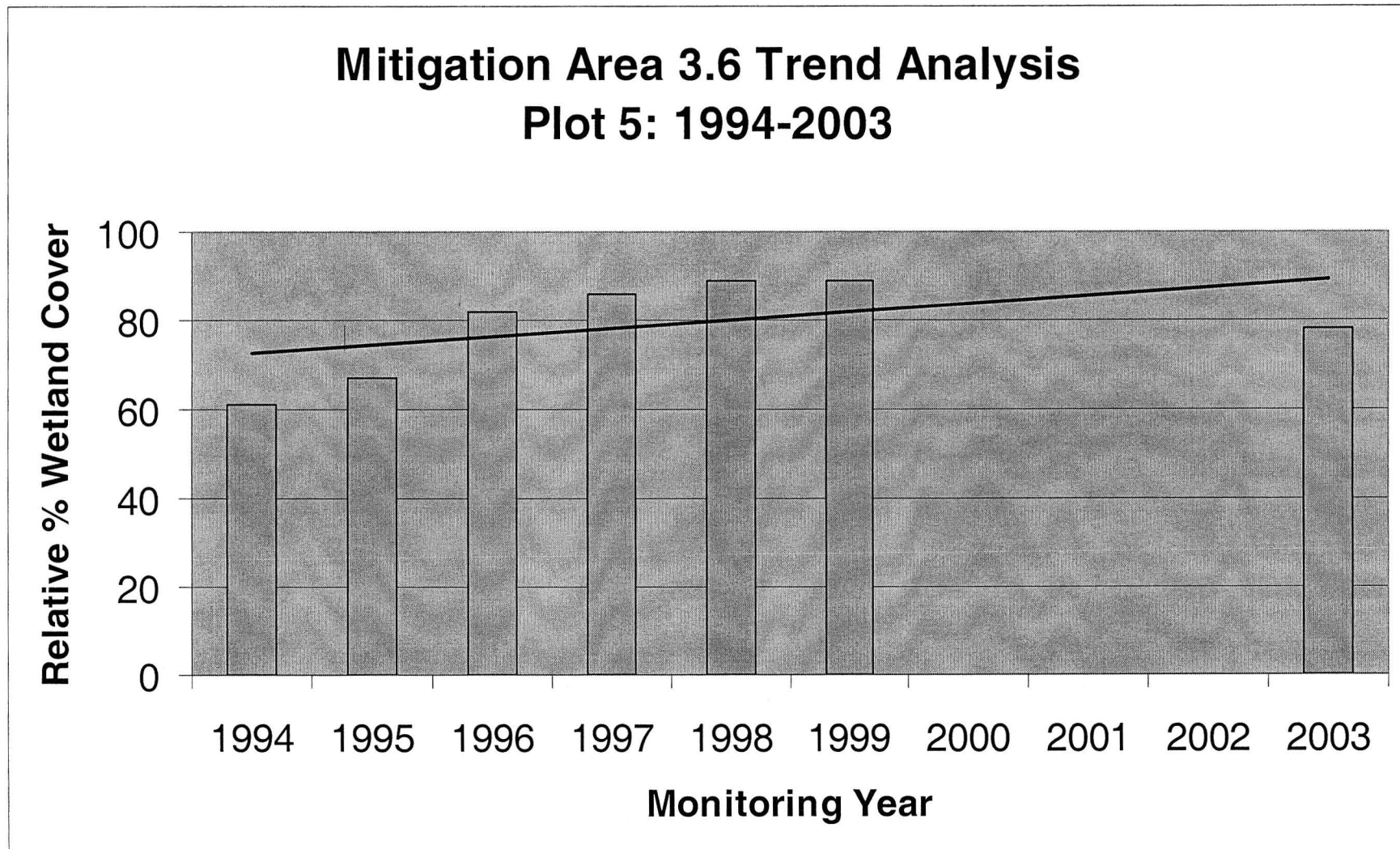


Figure G-10: Trend analysis comparing Plot 5 relative percent cover of wetland species by monitoring year at Mitigation Area 3.6.

Table H-1: Total monthly rainfall (inches) and staff gauge readings from 1992-2003 at the Curtis H. Stanton Energy Center.

Date*	Rainfall in. (Manual)	Water Depths at Staff Gauges (feet)									
		SG 1	SG 2	SG 3	SG 4	SG 11	SG 8	SG 9	SG 7	SG 5	SG 5A
09/24/92	8.14	2.61	0.46			0.12			0.78	1.84	
10/21/92	3.84	2.21	0.10			0.08					
11/23/92	1.38	0.61	0.04	0.00	0.54	0.00	0.78	1.06	0.26	1.11	0.90
12/18/92	0.55	0.53	0.00	0.00	0.30	0.00	0.65	0.94	0.00	0.94	0.84
01/31/93	5.82	0.82	0.14	0.00	0.56	0.01	0.90	1.18	0.65	1.66	1.13
02/23/93	1.93	0.84	0.10	0.00	0.70	0.06	0.84	1.12	0.41	1.60	1.13
03/22/93	3.82	0.84	0.16	0.00	0.61	0.04	0.86	1.21	0.66	1.70	1.14
04/29/93	3.48	0.40	0.00	0.00	0.00	0.00	0.57	0.91	0.00	1.09	0.00
05/24/93	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06/30/93	6.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.72
07/29/93	3.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
08/29/93	4.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09/20/93	5.96	0.72	0.27	0.00	0.30	0.00	0.13	0.40	0.00	1.45	0.96
10/15/93	6.16			0.00							
11/09/93	0.99	0.51	0.02	0.00	0.13	0.00	0.61	0.90	0.10	1.35	0.87
12/01/93	0.99	0.00	0.00	0.00	0.00	0.00	0.24	0.52	0.00	0.98	0.71
01/01/94	1.88	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.39	0.42
02/02/94	4.13	0.75	0.30	0.00	0.39	0.00	0.01	0.30	0.10	1.04	1.02
03/22/94	1.49	0.04	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.95	0.65
04/18/94	2.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05/10/94	2.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06/15/94	11.47	0.65	0.18	0.00	0.18	0.00	0.00	0.00	0.00	0.72	0.96
07/14/94	4.31	0.65	0.67	0.00	0.64	0.00	0.00	0.05	0.00	1.17	0.93
08/09/94	9.43	0.62	0.51	0.00	0.72	0.00	0.00	0.24	0.41	1.29	1.13
09/08/94	11.12	0.61	0.70	0.00	0.62	0.00	0.00	0.12	0.18	1.42	0.94
10/11/94	2.42	0.74	0.81	0.00	0.70	0.01	0.02	0.30	0.54	1.67	1.15
11/11/94	5.83	0.69	0.75	0.02	0.60	0.00	0.00	0.29	0.41	1.57	1.03
12/12/94	4.46	0.74	0.68	0.00	0.64	0.00	0.00	0.29	0.46	1.64	1.10
01/06/95	0.25	0.77	0.70	0.03	0.61	0.00	0.00	0.27	0.36	1.57	1.06
02/07/95	0.48	0.73	0.64	0.00	0.58	0.00	0.00	0.23	0.00	1.25	0.92
03/07/95	0.94	0.33	0.31	0.00	0.41	0.00	0.00	0.00	0.00	0.68	0.61
04/06/95	1.75	0.43	0.04	0.00	0.35	0.00	0.00	0.14	0.00	0.46	0.62
05/10/95	1.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06/06/95	7.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35
07/10/95	11.38	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39
08/10/95	4.74	0.72	0.66	0.00	0.63	0.00	0.00	0.27	0.49	1.61	1.09
09/14/95	5.55	0.81	0.81	0.17	0.78	0.01	0.14	0.42	0.59	1.77	1.16
10/12/95	8.40	0.83	0.76	0.10	0.77	0.02	0.09	0.38	0.59	1.77	1.16
11/09/95	1.32	0.50	0.46	0.00	0.54	0.00	0.00	0.21	0.20	1.43	0.93
12/15/95	0.57	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.63	0.45
01/11/96	6.54	0.76	0.67	0.07	0.65	0.00	0.00	0.28	0.51	1.67	1.09
02/08/96	1.68	0.78	0.70	0.08	0.70	0.00	0.04	0.32	0.42	1.65	1.07
03/14/96	8.68	0.81	0.76	0.14	0.78	0.04	0.18	0.46	0.57	1.75	1.14
04/12/96	3.55	0.58	0.51	0.00	0.60	0.00	0.01	0.30	0.34	1.55	

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Date*	Rainfall in. (Manual)	Water Depths at Staff Gauges (feet)									
		SG 1	SG 2	SG 3	SG 4	SG 11	SG 8	SG 9	SG 7	SG 5	SG 5A
05/16/96	3.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06/30/96	7.45										
07/26/96	2.23					0.00					0.46
08/08/96		0.00	0.00	0.00							
08/26/96	10.15	1.10	1.65	0.52		0.00	0.00				
09/30/96	3.05										
10/29/96	4.88		0.12	0.00		0.00	0.00		0.00	1.26	0.74
11/30/96	0.53										
12/31/96	2.31										
01/03/97	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.33
02/27/97	1.97	0.00	0.00	0.00	0.26	0.00	0.00	0.05	0.00	0.25	0.48
03/31/97	2.61										
04/03/97	4.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05/05/97		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.65
05/19/97	4.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
06/13/97	9.45	0.54	0.16	0.00	0.31	0.26	0.17	0.22	0.23	0.80	0.96
07/29/97	9.33	0.95	0.85	0.22	0.94	0.44	0.44	0.44	0.65	1.80	1.24
08/25/97	6.36	0.65	0.45	0.00	0.53	0.24	0.35	0.34	0.34	1.46	0.91
09/26/97	3.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.37
10/30/97	3.26	0.00	0.00	0.00	0.12	0.00	0.00	0.05	0.00	0.62	0.87
11/24/97	5.07	0.68	0.52	0.00	0.60	0.26	0.29	0.26	0.40	1.58	1.02
12/30/97	13.33	0.90	0.72	0.16	0.74	0.37	0.50	0.50	0.62	1.76	1.18
01/29/98	2.07	0.75	0.49	0.07	0.67	0.32	0.36	0.36	0.44	1.62	1.09
02/25/98	7.65	0.91	0.71	0.18	0.80	0.40	0.56	0.55	0.64	1.82	1.22
03/26/98	4.69	0.78	0.52	0.10	0.66	0.33	0.39	0.39	0.52	1.68	1.10
04/28/98	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.00
06/01/98	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.80
06/24/98	2.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
07/31/98	6.23	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.71
08/31/98	7.48	0.64	0.44	0.00	0.40	0.00	0.00	0.00	0.00	0.90	0.69
09/30/98	8.36	0.81	0.63	0.12	0.70	0.32	0.33	0.34	0.54	1.74	1.12
10/26/98	0.36	0.16	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.86	0.46
11/25/98	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48	0.43
12/31/98	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02/01/99	2.29	0.20	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.29
02/26/99	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03/26/99	1.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04/26/99	3.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05/27/99	4.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06/29/99	9.95	0.86	0.78	0.14	0.74	0.32	0.41	0.41	0.62	1.78	1.10
07/28/99	4.68	0.76	0.61	0.01	0.67	0.00	0.33	0.34	0.46	1.62	1.00
08/27/99	6.93	0.79	0.73	0.11	0.72	0.26	0.36	0.35	0.54	1.76	1.03
09/30/99	11.21										
10/26/99	7.00	1.10	0.87	0.26	0.67	0.30	0.47	0.46	0.60	1.70	1.02
11/24/99	2.68	0.78	0.57	0.03	0.62	0.28	0.33	0.33	0.16	1.45	0.94
12/22/99	2.52	0.82	0.72	0.12	0.71	0.28	0.41	0.40	0.46	1.58	1.00
01/27/00	1.00	0.45	0.18	0.00	0.45	0.16	0.19	0.18	0.00	0.90	0.73

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Date*	Rainfall in. (Manual)	Water Depths at Staff Gauges (feet)									
		SG 1	SG 2	SG 3	SG 4	SG 11	SG 8	SG 9	SG 7	SG 5	SG 5A
02/29/00	0.69	0.35	0.00	0.00	0.38	0.02	0.00	0.06	0.00	0.48	0.60
03/28/00	1.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04/28/00	1.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05/31/00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06/28/00	5.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
07/27/00	5.90	0.91	0.45	0.00	0.54	0.00	0.00	0.00	1.00	0.45	0.86
08/30/00	4.22	0.22	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.32
10/03/00	5.97	0.80	0.72	0.12	0.74	0.27	0.00	0.08	0.34	0.72	0.93
10/30/00	2.93	0.44	0.22	0.00	0.45	0.00	0.00	0.00	0.00	0.64	0.48
12/07/00	1.08	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.22
12/21/00	1.39	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
01/30/01	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02/27/01	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03/30/01	1.44	0.36	0.00	0.00	0.30	0.00	0.00	0.01	0.00	0.18	0.50
04/27/01	2.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05/29/01	4.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06/26/01	6.81	0.74	0.01	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.62
07/31/01	8.39	0.72	0.64	0.10	0.66	0.20	0.00	0.02	0.39	0.84	0.95
08/31/01	10.67	0.70	0.64	0.12	0.74	0.24	0.28	0.28	0.60	1.78	1.09
09/26/01	9.92	0.86	0.73	0.20	0.75	0.32	0.32	0.32	0.66	1.84	1.14
10/29/01	2.66	0.68	0.56	0.06	0.62	0.20	0.19	0.20	0.17	1.46	0.98
11/30/01	1.87	0.60	0.46	0.00	0.56	0.14	0.16	0.16	0.00	1.09	0.90
12/27/01	1.07	0.37	0.00	0.00	0.44	0.00	0.00	0.00	0.00	0.57	0.58
01/31/02	2.15	0.72	0.44	0.00	0.58	0.07	0.05	0.40	0.00	0.63	0.75
02/27/02	3.89	0.82	0.71	0.14	0.72	0.22	0.28	0.28	0.27	1.05	1.02
03/28/02	1.52	0.24	0.12	0.00	0.47	0.32	0.07	0.10	0.00	0.58	0.72
04/30/02	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05/30/02	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06/25/02	9.78	1.09	0.80	0.20	0.74	0.22	0.16	0.18	0.55	1.25	1.08
07/29/02	8.69	0.64	0.54	0.08	0.63	0.18	0.29	0.26	0.48	1.65	1.00
08/30/02	8.58	0.70	0.57	0.11	0.80	0.39	0.71	0.71	0.72	1.26	1.87
09/30/02	4.04	0.58	0.32	0.00	0.58	0.46	0.36	0.24	0.24	1.48	0.96
October-02	2.09										
11/27/02	2.90	0.39	0.00	0.00	0.39	0.10	0.02	0.04	0.00	0.78	0.82
12/23/02	8.17	0.67	0.58	0.07	0.64	0.22	0.30	0.30	0.53	1.72	1.06
01/30/03	4.58	0.42	0.32	0.00	0.51	0.18	0.22	0.21	0.00	1.26	0.87
February-03	1.82										
March-03	10.13										
April-03	2.67										
05/29/03	7.46	0.68	0.62	0.08	0.64	0.20	0.28	0.29	0.47	1.68	1.02
06/30/03	7.09	0.89	0.74	0.15	0.78	0.32	0.43	0.44	0.60	1.78	1.14

* Dates shown represent monitoring dates for staff gauges. Rainfall data are cumulative monthly totals.

Table H-2: Total monthly rainfall (inches) and piezometer readings from 1992-2003 at the Curtis H. Stanton Energy Center.

Date*	Rainfall in. (Manual)	Piezometer Water Level Readings (feet)						
		P 1	P 2	P 3	P 4	P 5	P 6	P 7
09/24/92	8.14	-1.30	0.39	-0.50	-0.08	-0.06	-4.81	0.00
10/21/92	3.84	-2.22	-0.23	-1.10	-1.28	-0.98	-5.03	-0.26
11/23/92	1.38	-0.33	-0.72	-1.59	-0.42	-0.48	0.06	-0.15
12/18/92	0.55	-1.82	-1.43	-2.06	-1.18	-1.11	-0.15	-0.86
01/31/93	5.82	-0.27	-0.57	-1.43	-0.71	-0.20	0.12	-0.24
02/23/93	1.93	-0.46	-0.74	-1.68	-0.53	-0.19	-0.07	-0.35
03/22/93	3.82	-0.45	-1.82	-1.77	-0.79	-0.29	0.06	-0.52
04/29/93	3.48	-1.53	-1.78	-2.52	-1.90	-1.85	-0.84	-1.38
05/24/93	0.29	-3.14	-1.86		-3.37	-3.46	-1.14	-2.44
06/30/93	6.53	-1.78	-1.83	-3.12	-2.56	-2.60	-1.84	-2.05
07/29/93	3.72	-2.61	-1.35	-2.60	-2.97	-3.21	-2.32	-1.99
08/29/93	4.39	-2.21	-1.86	-2.61	-3.34	-3.70	-2.61	-1.99
09/20/93	5.96	-0.69	-1.06	-1.54	-1.42	-1.03	-0.48	-1.50
10/15/93	6.16	-1.32	-1.59	-1.84	-1.43	-1.32	-1.19	-1.52
11/09/93	0.99	-0.93	-1.28	-1.45	-1.23	-0.88	-1.17	-0.81
12/01/93	0.99	-1.70	-1.74	-2.20	-1.82	-1.48	-0.87	-1.33
01/01/94	1.88	-1.95		-2.44	-1.73	-1.44	-0.87	-1.84
02/02/94	4.13	-0.55	-0.82	-1.08	-1.48	-0.23	-0.66	-0.86
03/22/94	1.49	-1.62	-1.78	-1.91	-1.99	-1.78	-0.90	-2.15
04/18/94	2.97	-2.99		-2.89	-3.16	-2.96	-1.96	-2.92
05/10/94	2.12	-2.78		-3.18	-2.87	-2.79	-1.62	-2.78
06/15/94	11.47	-1.05	-1.62	-1.52	-1.66	-1.63	-0.87	-1.93
07/14/94	4.31	-0.89	-1.20	-1.28	-0.96	-1.09	-1.04	-2.00
08/09/94	9.43	-0.72	-0.99	-0.78	-0.46	-0.24	-0.67	-1.06
09/08/94	11.12	-0.95	-1.14	-1.48	-0.97	-1.15	-0.81	-1.82
10/11/94	2.42	-0.53	-0.51	0.25	-0.29	-0.06	-0.79	-0.84
11/11/94	5.83	-0.78	-0.78	0.20	-0.80	-0.92	-0.42	-1.43
12/12/94	4.46	-0.71	-0.82	0.25	-0.49	-0.48	-0.37	-1.27
01/06/95	0.25	-0.49	-0.74	0.26	-0.77	-0.77	-0.69	-1.38
02/07/95	0.48	-0.69	-1.01	-0.29	-0.83	-1.17	-0.72	-1.85
03/07/95	0.94	-1.39	-1.68	-1.85	-1.52	-1.87	-1.17	-2.31
04/06/95	1.75	-0.39	-0.97	-1.28	-0.30	-1.04	-0.71	-1.57
05/10/95	1.55	-2.93	-1.80	-2.95	-2.95	-3.17	-1.67	-2.92
06/06/95	7.55	-2.45	-1.77	-3.00	-2.31	-2.79	-2.01	-2.98
07/10/95	11.38	-1.44		-2.25	-1.93	-2.38	-1.75	-2.46
08/10/95	4.74	-0.76	-1.04	0.19	-0.80	-0.72	-0.55	-1.09
09/14/95	5.55	-0.28	-0.45	0.39	-2.85	-3.14	-0.14	-0.63
10/12/95	8.40	-0.34	-0.37	0.36	-0.21	-0.03	-0.23	-0.56
11/09/95	1.32	-1.18	-1.45	-1.60	-1.15	-1.19	-0.92	0.58
12/15/95	0.57	-2.14		-2.33	-2.04	-2.09	-1.04	-2.29
01/11/96	6.54	-0.47	-0.68	0.24	-0.47	-0.18	-0.44	-0.79
02/08/96	1.68	-0.44	-0.57	0.34	-0.47	-0.21	-0.50	-1.01

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Date*	Rainfall in. (Manual)	Piezometer Water Level Readings (feet)						
		P 1	P 2	P 3	P 4	P 5	P 6	P 7
03/14/96	8.68	-0.29		0.27	-0.34	0.04	-0.11	-0.26
04/12/96	3.55	-1.05	-1.03	-0.79	-1.13	-1.19	-0.75	-1.59
05/16/96	3.25	-3.10		-2.79	-2.60	-2.86	-1.85	-2.76
06/30/96	7.45							
07/26/96	2.23							
08/08/96		-3.70		-1.68		-2.21		
08/26/96	10.15						-2.00	-2.32
09/30/96	3.05							
10/29/96	4.88	-2.54		-1.67		-1.30	-1.08	-1.87
11/30/96	0.53							
12/31/96	2.31							
01/03/97	1.74	-2.74	-2.71	-3.01	-1.87	-2.27	-1.63	-2.58
02/27/97	1.97	-2.17	-2.61	-2.63	-1.50	-1.75	-1.29	-2.21
03/31/97	2.61							
04/03/97	4.33	-3.19	-3.30	-3.17	-2.56	-1.92	-1.48	-2.33
05/05/97		-2.46	-2.62	-2.53	-2.10	-2.10	-1.28	-2.02
05/19/97	4.13	-2.95	-3.31	-3.07	-2.37	-2.61	-1.56	-2.52
06/13/97	9.45	-0.75	-1.28	-1.08	-0.98	-0.95	-0.75	-1.11
07/29/97	9.33	-0.26	-0.39	0.15	-0.28	-0.17	-0.29	-0.40
08/25/97	6.36	-1.02	-1.57	-0.54	-1.20	-1.74	-1.01	-1.85
09/26/97	3.49	-1.81	-1.73	-2.10	-2.74	-2.99	-1.58	-2.78
10/30/97	3.26	-2.17	-2.40	-2.63	-1.76	-2.32	-1.26	-2.19
11/24/97	5.07	-0.97	-1.21	-0.24	-1.00	-1.13	-1.04	-1.67
12/30/97	13.33	-0.39	-0.33	0.11	-0.47	-0.28	-0.47	-0.58
01/29/98	2.07	-0.86	-1.02	-0.01	-0.83	-0.98	-0.89	-1.52
02/25/98	7.65	-0.37	-0.41	0.16	-0.41	-0.23	-0.46	-0.60
03/26/98	4.69	-0.83	-0.97	0.04	-0.91	-1.10	-0.87	-1.38
04/28/98	0.45	-2.92	-2.55	-2.67	-2.72	-2.97	-1.90	-2.86
06/01/98	2.54	-3.37	-3.66	-3.45	-2.66	-3.01	-1.39	-2.78
06/24/98	2.88	-3.25	-3.93	-3.64	-3.29	-3.76	-3.14	-3.10
07/31/98	6.23	-1.67	-1.98	-2.02	-2.37	-2.80	-2.34	-2.88
08/31/98	7.48	-1.28	-1.47	-0.56	-1.78	-2.21	-1.75	-2.67
09/30/98	8.36	-0.56	-0.68	-0.07	-0.63	-0.45	-0.76	-1.28
10/26/98	0.36	-1.89	-1.97	-2.27	-2.09	-2.59	-1.75	-2.62
11/25/98	2.28	-2.03	-2.18	-2.44	-2.21	-2.70	-1.80	-2.66
12/31/98	0.56	-2.54	-2.94	-3.12	-2.59	-3.35	-2.25	-3.14
02/01/99	2.29	-1.36	-2.27	-2.75	-1.41	-2.78	-1.53	-2.42
02/26/99	0.61	-2.95	-3.34	-3.43	-2.85	-3.60	-2.81	-3.34
03/26/99	1.28	-2.69	-3.71	-3.82	-3.09	-3.97	-2.75	-3.61
04/26/99	3.76	-3.65	-4.42	-4.47	-3.54	-4.01	-3.38	-3.87
05/27/99	4.84	-2.55	-3.63	-3.97	-2.14	-3.11	-2.81	-3.10
06/29/99	9.95	-0.52	-0.52	-0.02	-0.46	-0.27	-0.53	-1.02
07/28/99	4.68	-0.87	-0.93	-0.12	-0.63	-0.72	-0.65	-1.27
08/27/99	6.93	-0.84	-0.80	-0.02	-0.74	-0.68	-1.01	-1.54
09/30/99	11.21							

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Date*	Rainfall in. (Manual)	Piezometer Water Level Readings (feet)						
		P 1	P 2	P 3	P 4	P 5	P 6	P 7
10/26/99	7.00	-0.37	-0.34	0.09	-0.73	-0.75	-0.69	-1.50
11/24/99	2.68	-0.67	-0.75	-0.08	-0.39	-0.58	-0.74	-1.51
12/22/99	2.52	-0.50	-0.52	0.01	-0.42	-0.27	-0.55	-1.17
01/27/00	1.00	-1.23	-1.55	-1.71	-1.04	-1.58	-1.06	-1.95
02/29/00	0.69	-1.25	-1.84	-1.99	-0.87	-1.65	-1.23	-1.99
03/28/00	1.13	-2.66	-2.93	-3.00	-2.48	-2.84	-2.19	-2.84
04/28/00	1.28	-3.46	-3.82	-3.66	-3.22	-3.66	-3.25	-3.81
05/31/00	0.19	-4.38	-4.78	-4.70	-4.05	-4.42	-5.06	-5.06
06/28/00	5.62	-4.35	-5.48	-5.25	-3.49	-4.55	-3.90	-4.49
07/27/00	5.90	-0.41	-1.19	-0.10	-0.43	-1.15	-1.18	-1.90
08/30/00	4.22	-1.58	-1.77	-1.50	-0.49	-2.10	-2.88	-3.24
10/03/00	5.97	-0.54	-0.52	-0.04	-0.20	-0.37	-0.68	-1.29
10/30/00	2.93	-1.45	-1.69	-1.99	-1.10	-1.58	-1.43	-2.23
12/07/00	1.08	-1.83	-2.26	-2.34	-1.38	-2.04	-1.72	-2.40
12/21/00	1.39	-2.07	-2.66	-2.77	-1.70	-2.38	-1.92	-2.70
01/30/01	1.30	-2.03	-2.97	-3.12	-1.78	-2.63	-2.21	-2.79
02/27/01	0.45	-2.59	-3.46	-3.52	-2.42	-3.23	-2.69	-3.23
03/30/01	1.44	-1.49	-2.62	-2.92	-0.92	-2.47	-1.25	-2.22
04/27/01	2.07	-3.35	-4.13	-4.10	-3.13	-3.76	-3.87	-4.08
05/29/01	4.65	-2.46	-3.70	-3.28	-2.56	-3.75	-4.51	-4.42
06/26/01	6.81	-0.60	-1.65	-1.72	-0.31	-1.32	-2.53	-2.43
07/31/01	8.39	-0.46	-0.33	-0.05	-0.16	-0.23	-0.99	-1.33
08/31/01	10.67	-0.84	-0.71	-0.02	-0.38	-0.24	-0.80	-1.27
09/26/01	9.92	-0.40	-0.27	0.04	-0.12	0.01	-0.66	-1.18
10/29/01	2.66	-0.86	-0.78	0.09	-0.65	-0.90	-1.04	-1.84
11/30/01	1.87	-1.12	-1.34	-1.38	-0.78	-1.34	-1.18	-2.00
12/27/01	1.07	-1.36	-1.80	-2.19	-0.92	-1.72	-1.43	-2.29
01/31/02	2.15	-0.69	-1.19	-1.68	-0.71	-1.19	-1.44	-2.23
02/27/02	3.89	-0.50	-0.60	-0.01	-0.29	-0.13	-0.86	-1.39
03/28/02	1.52	-1.51	-1.51	-1.74	-0.63	-1.26	-1.95	-1.84
04/30/02	1.47	-2.53	-2.52	-2.68	-2.04	-2.49	-3.21	-3.06
05/30/02	2.42	-3.20	-3.36	-3.25	-2.72	-3.20	-3.60	-3.94
06/25/02	9.78	-0.23	-0.42	0.05	-0.09	0.04	-0.61	-1.06
07/29/02	8.69	-1.08	-1.06	-0.04	-0.78	-0.95	-1.00	-1.67
08/30/02	8.58	-1.09	-0.39	-0.05	-0.03	0.00	-0.11	-0.64
09/30/02	4.04	-1.18	-1.32	-0.32	-0.78	-1.15	-1.04	-1.90
October-02	2.09							
11/27/02	2.90	-1.51	-1.96	-2.16	-1.05	-2.35	-1.32	-2.12
12/23/02	8.17	-0.73	-0.70	-0.09	-0.42	-0.32	-0.80	-1.31
01/30/03	4.58	-1.32	-1.42	-1.71	-1.08	-1.44	-1.17	-1.97
February-03	1.82							
March-03	10.13							
April-03	2.67							
05/29/03	7.46	-0.86	-0.91	-0.05	-0.68	-0.66	-1.02	-1.52
06/30/03	7.09	-0.35	-0.30	-0.02	-0.22	-0.02	-0.47	-1.03

* Dates shown represent monitoring dates for staff gauges. Rainfall data are cumulative monthly totals.

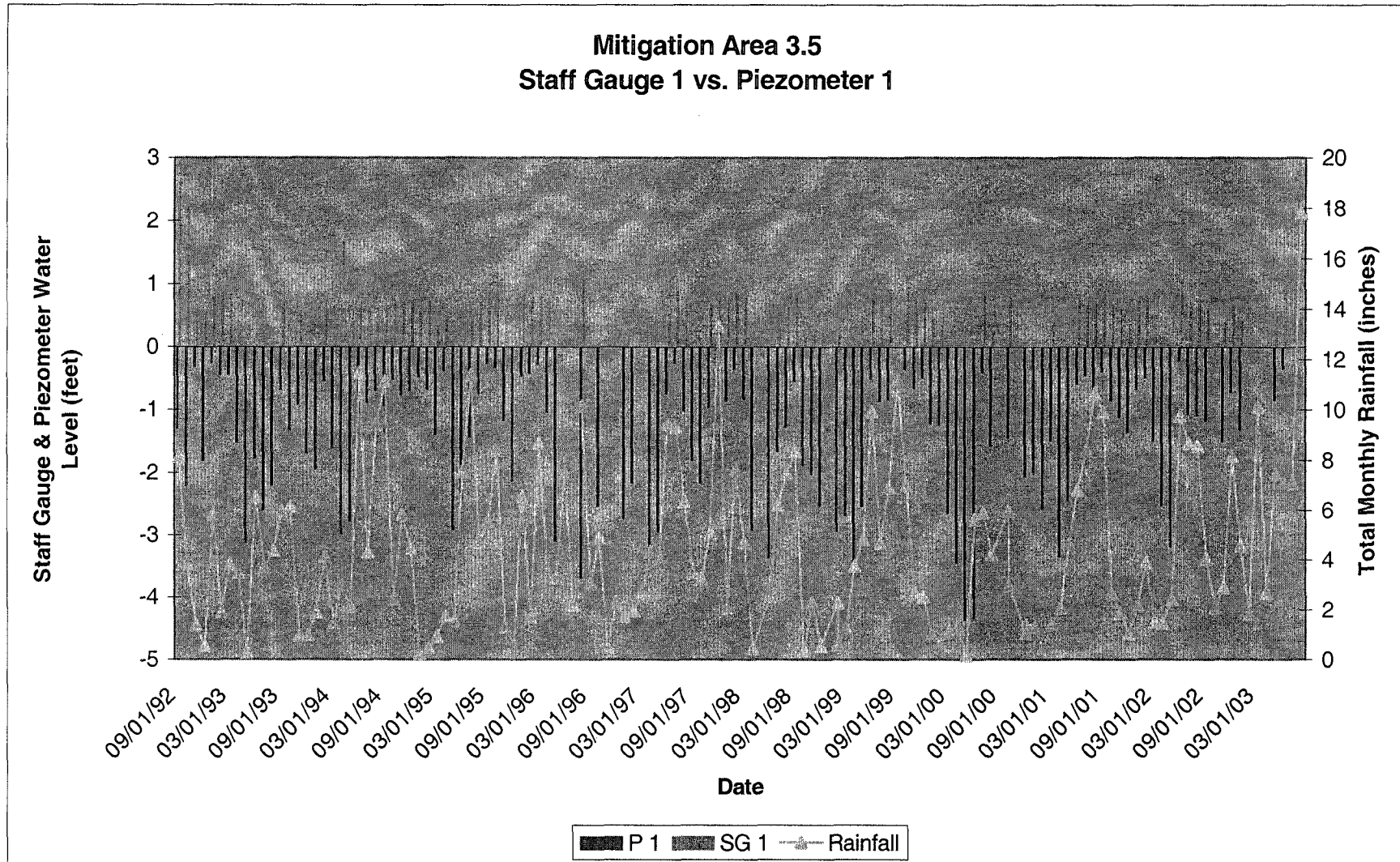


Figure H-1: Monthly cumulative rainfall versus readings of Staff Gauge 1 and Piezometer 1 at Mitigation Area 3.5.

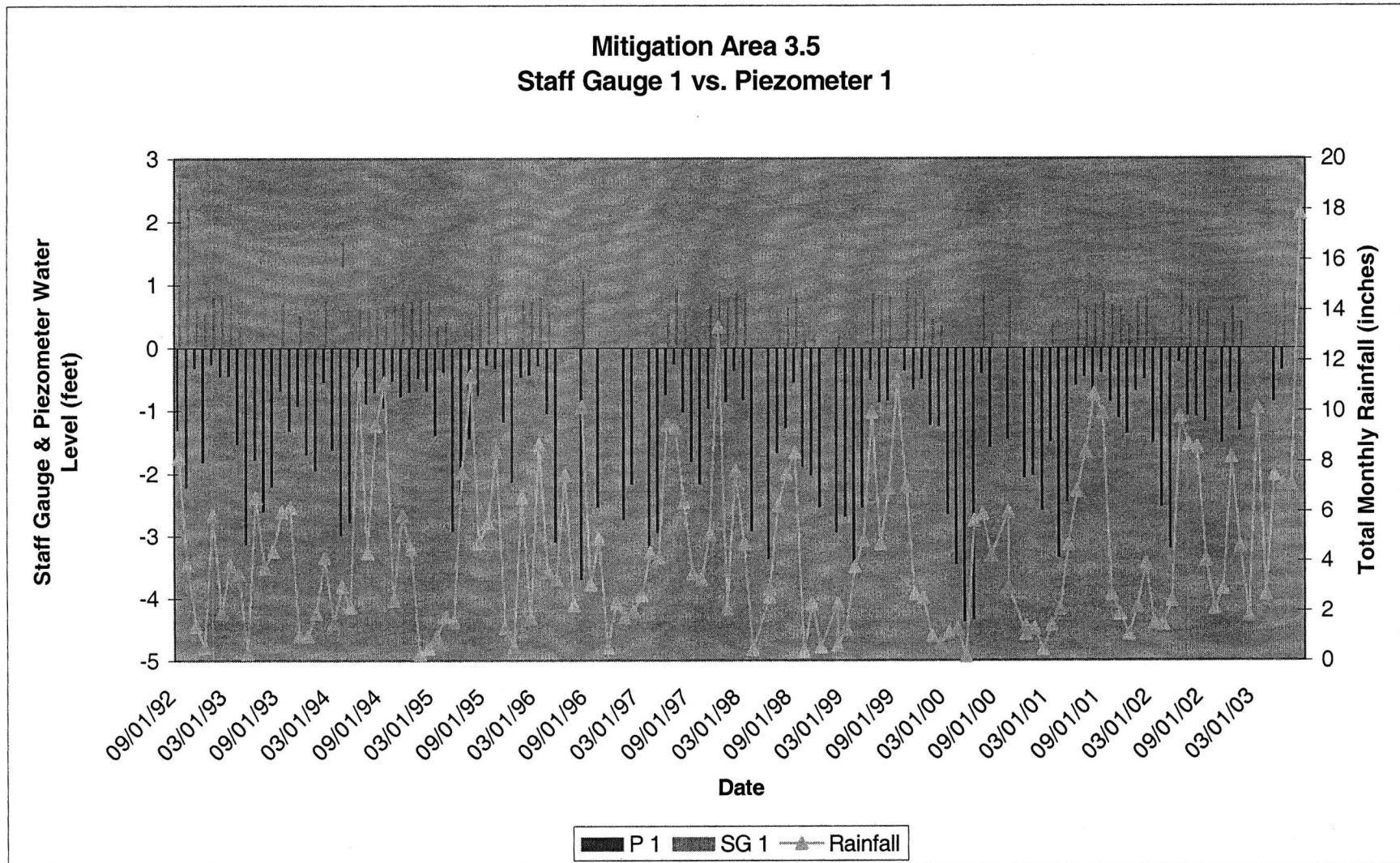


Figure H-1: Monthly cumulative rainfall versus readings of Staff Gauge 1 and Piezometer 1 at Mitigation Area 3.5.

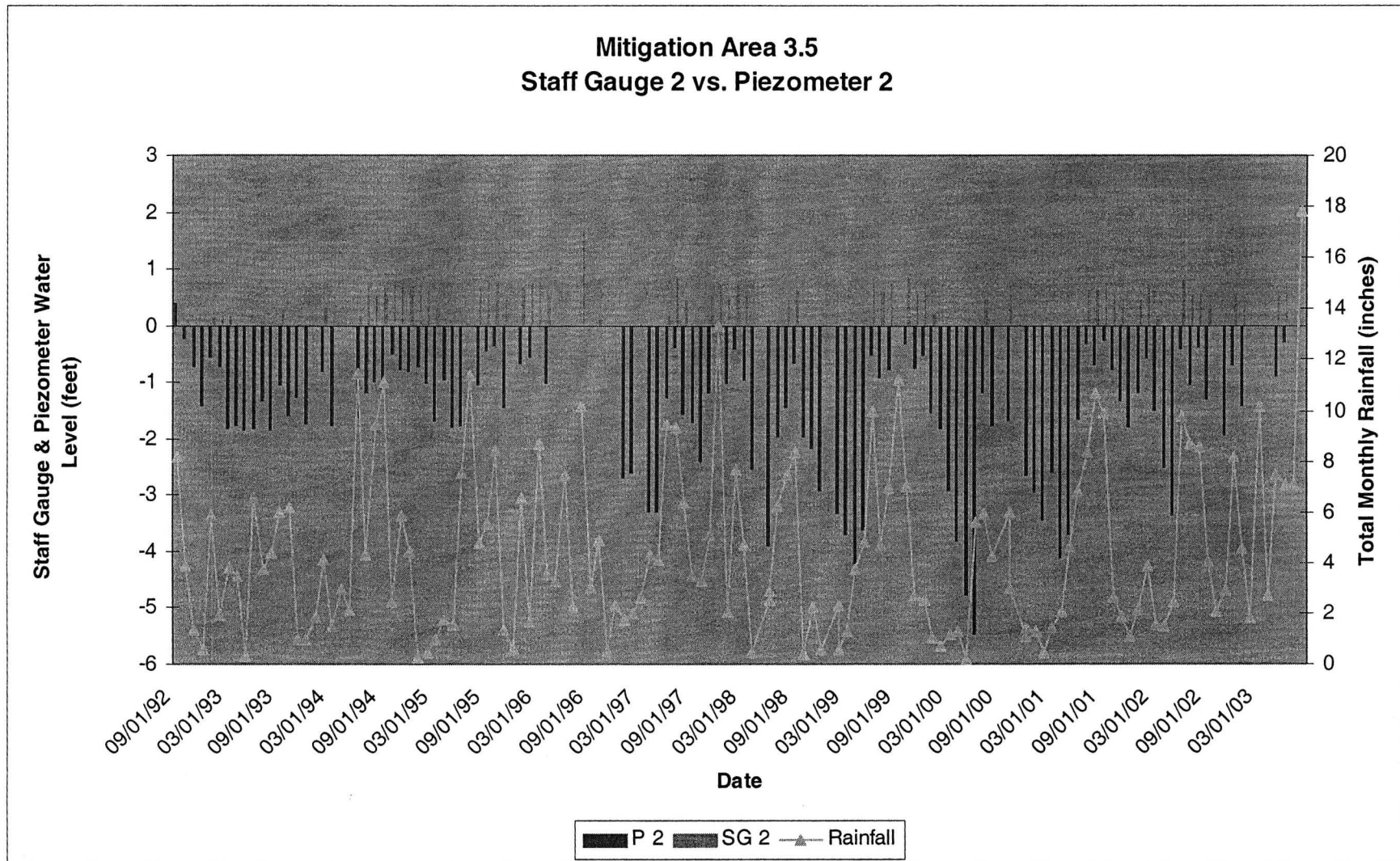


Figure H-2: Monthly cumulative rainfall versus readings of Staff Gauge 2 and Piezometer 2 at Mitigation Area 3.5.

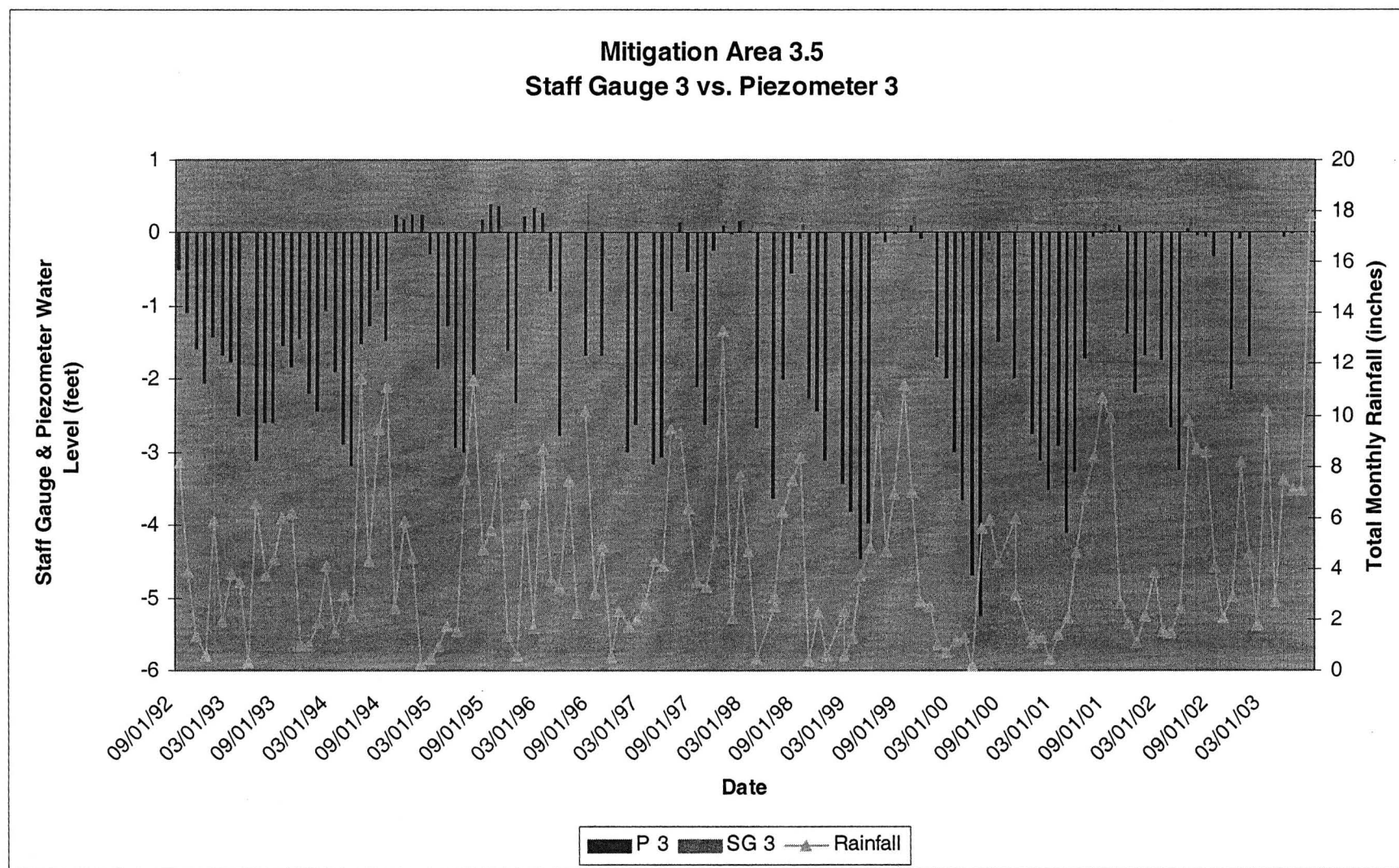


Figure H-3: Monthly cumulative rainfall versus readings of Staff Gauge 3 and Piezometer 3 at Mitigation Area 3.5.

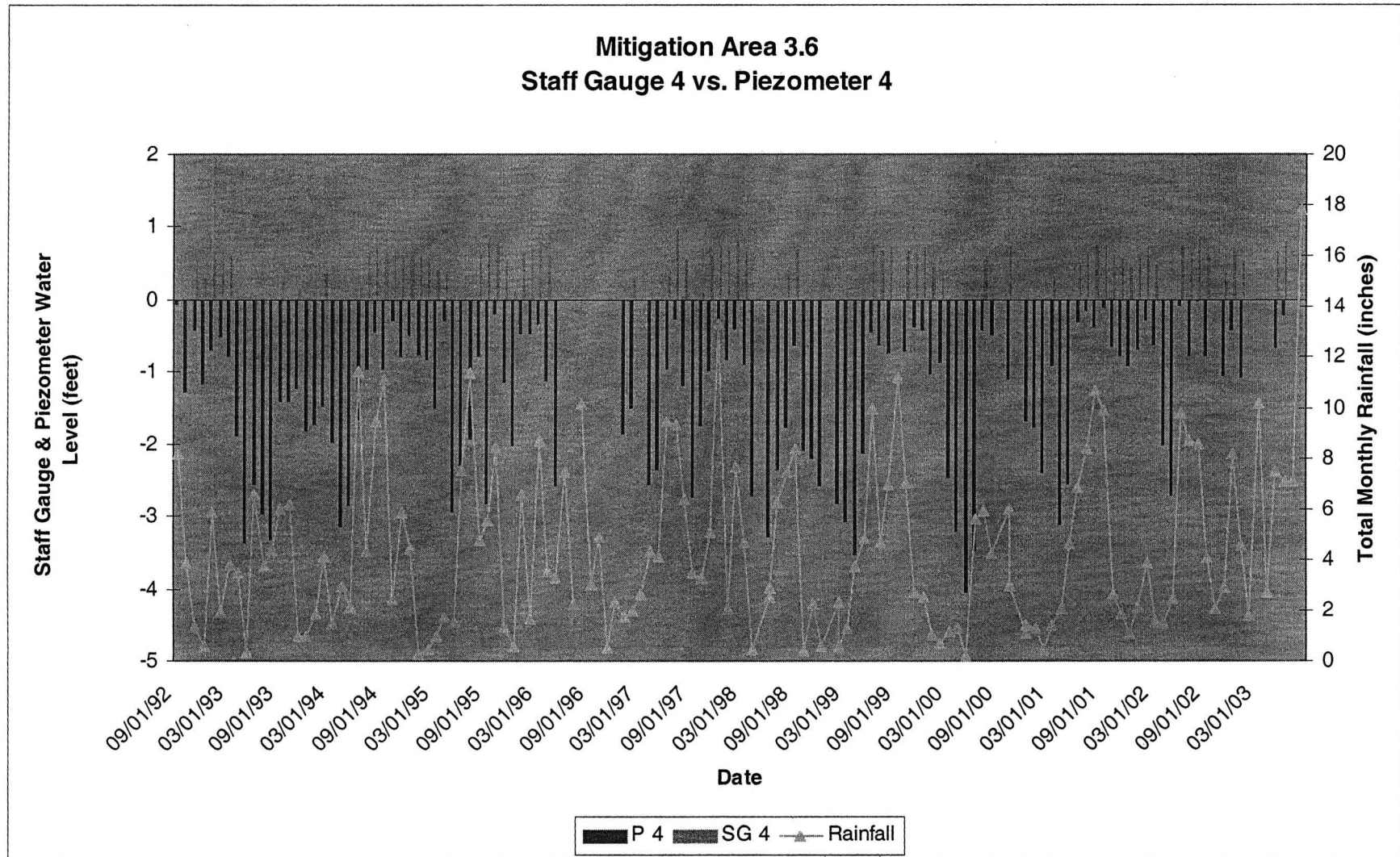


Figure H-4: Monthly cumulative rainfall versus readings of Staff Gauge 4 and Piezometer 4 at Mitigation Area 3.6.

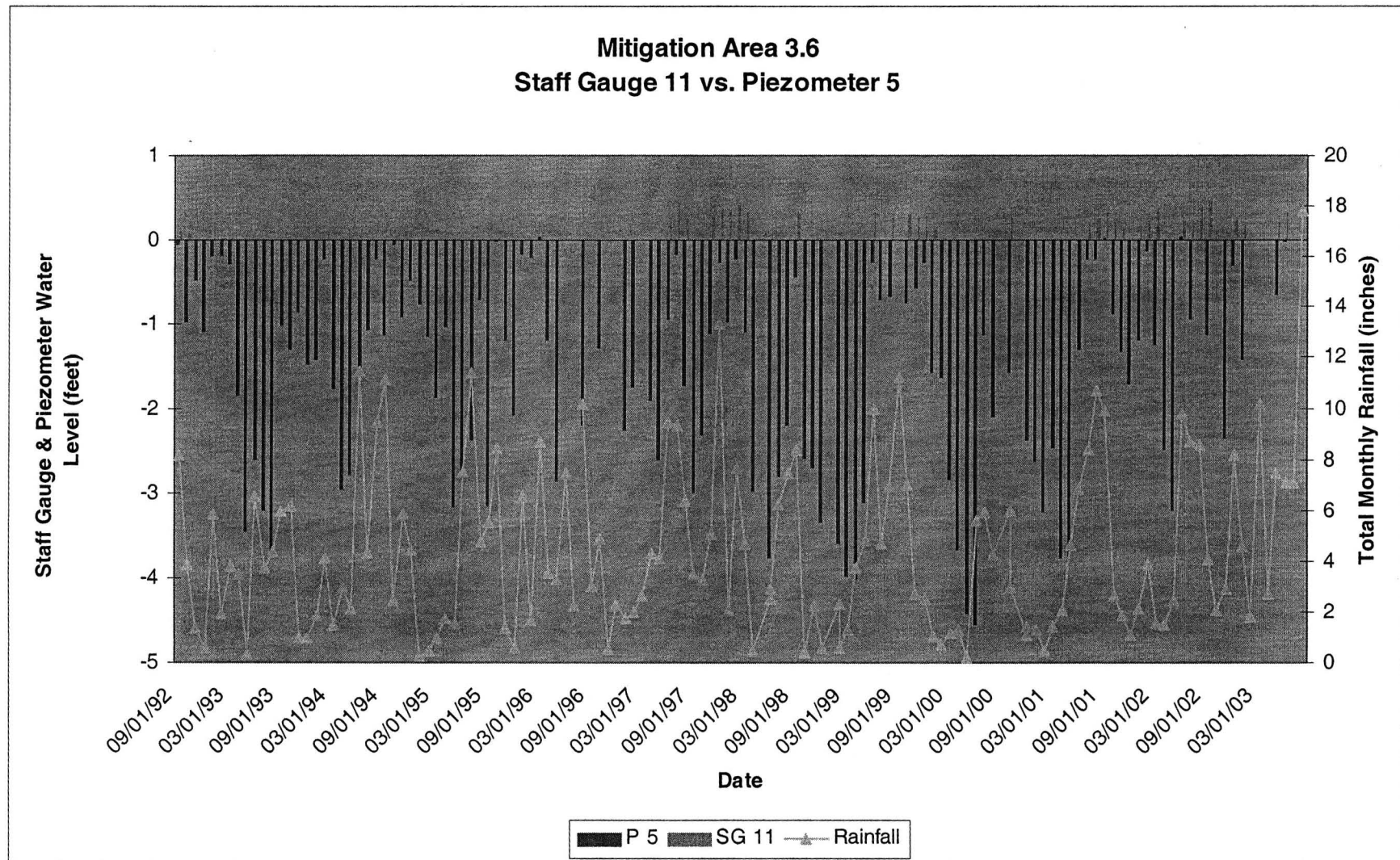


Figure H-5: Monthly cumulative rainfall versus readings of Staff Gauge 11 and Piezometer 5 at Mitigation Area 3.6.

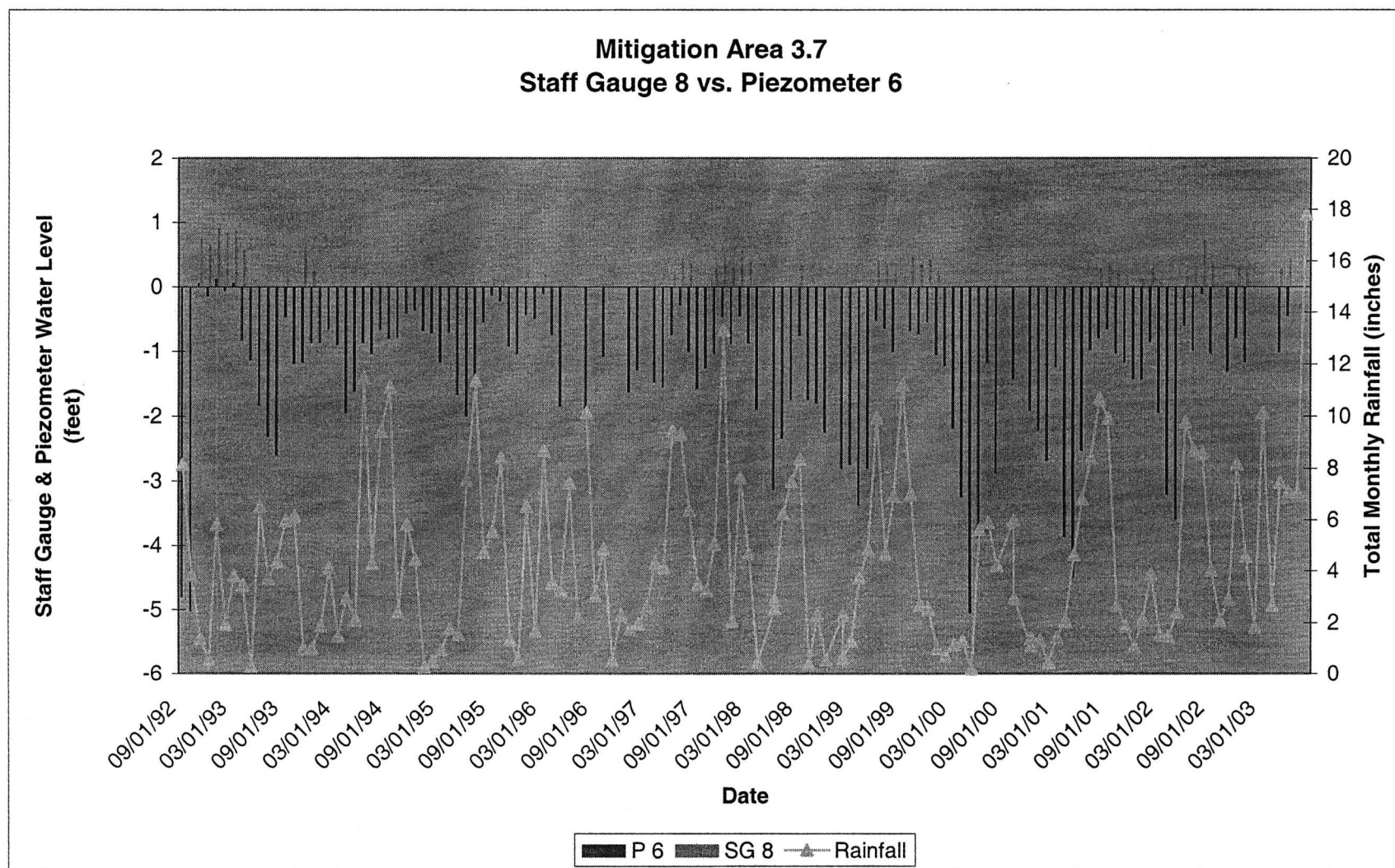


Figure H-6: Monthly cumulative rainfall versus readings of Staff Gauge 8 and Piezometer 6 at Mitigation Area 3.7.

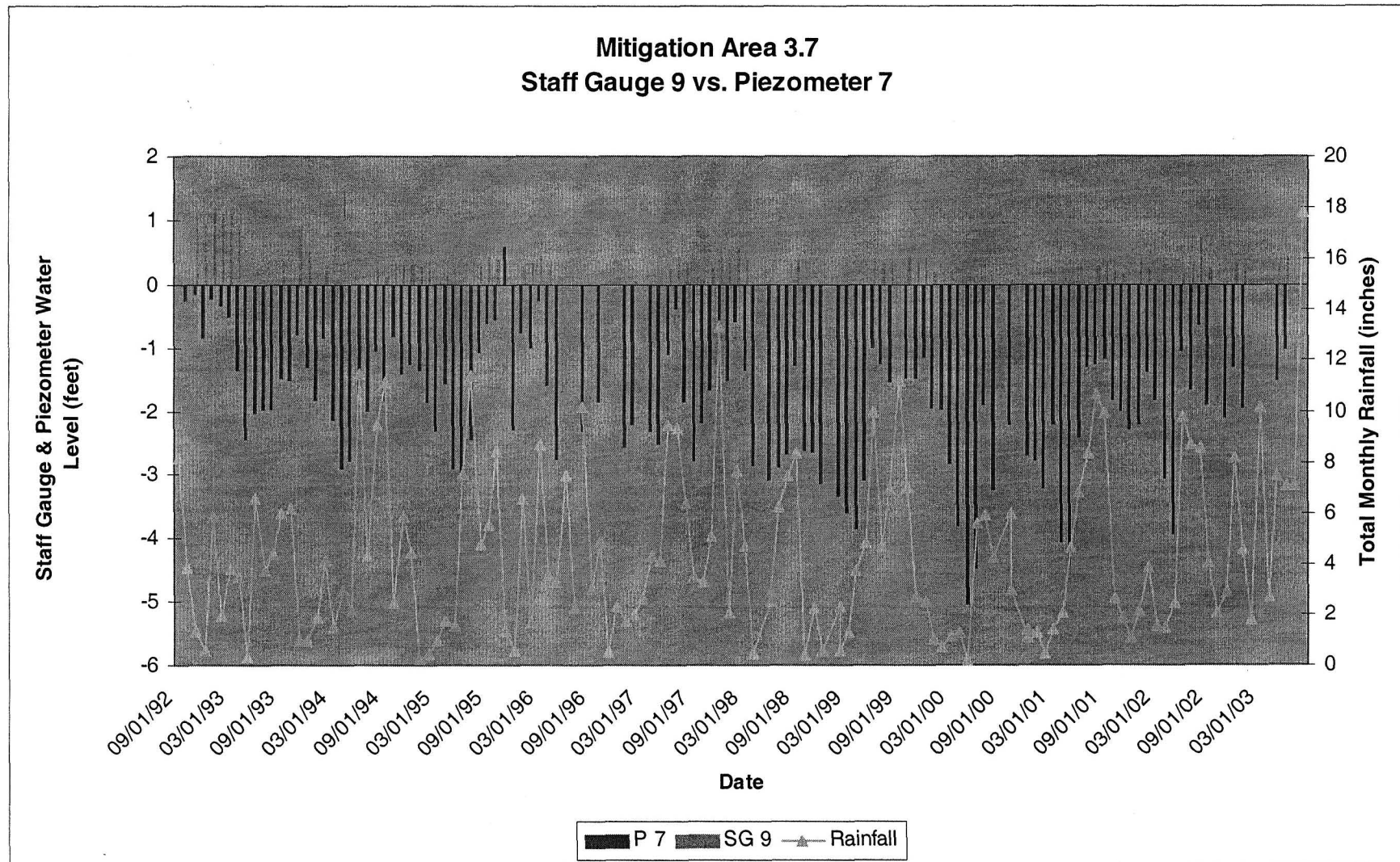


Figure H-7: Monthly cumulative rainfall versus readings of Staff Gauge 9 and Piezometer 7 at Mitigation Area 3.7.

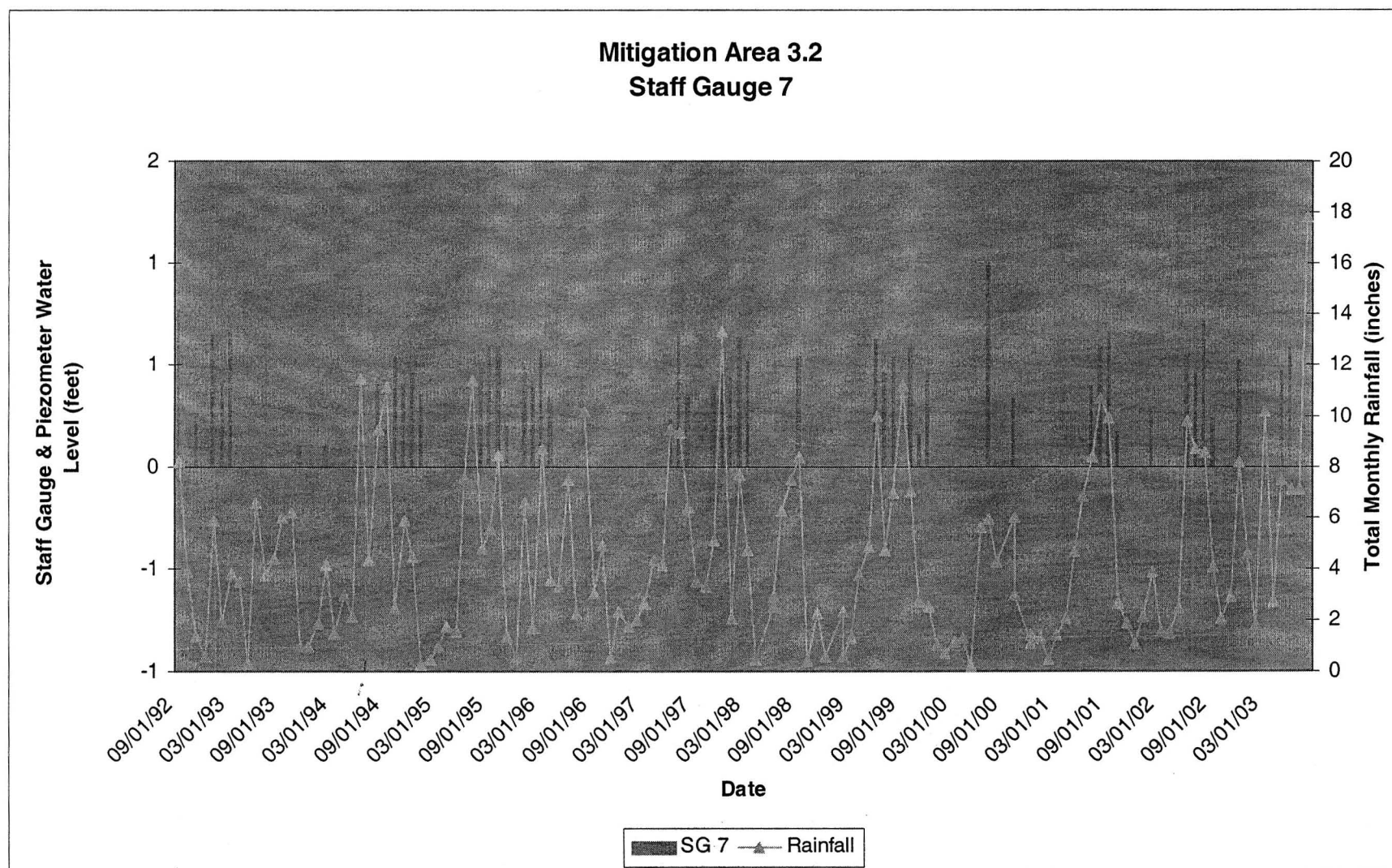


Figure H-8: Monthly cumulative rainfall versus readings of Staff Gauge 7 at Mitigation Area 3.2.

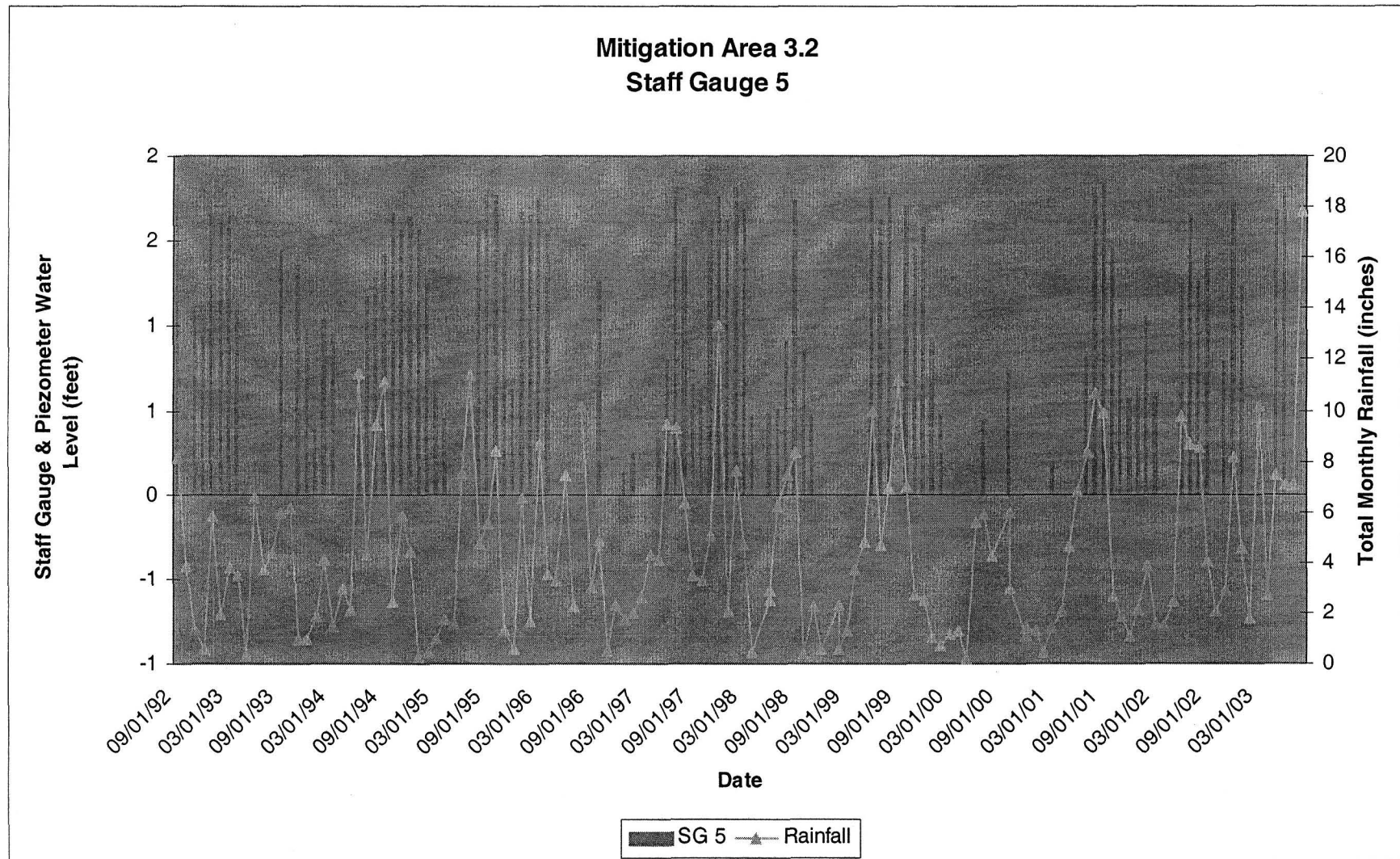


Figure H-9: Monthly cumulative rainfall versus readings of Staff Gauge 5 at Mitigation Area 3.2.

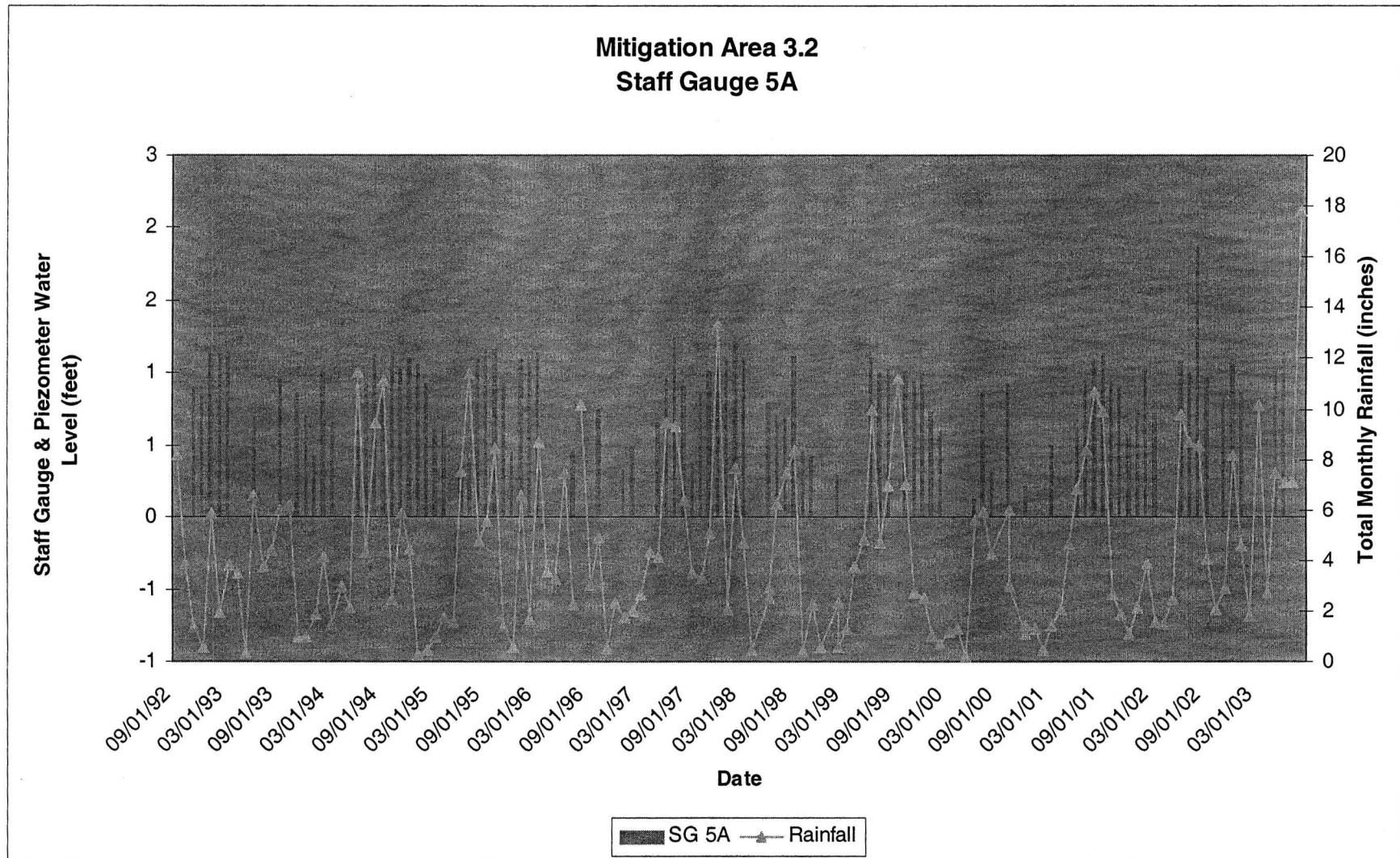


Figure H-10: Monthly cumulative rainfall versus readings of Staff Gauge 5A at Mitigation Area 3.2.

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Appendix H: Regression Analysis and Analysis of Variance (ANOVA) of staff gauge and piezometer data with rainfall data collected at the Curtis H. Stanton Energy Center for the for the immediately preceding recording period, seven day period, and fifteen day period prior to the monthly reading of each staff gauge and piezometer. The t-statistic and associated P-value shown in each ANOVA indicate whether the slope (X Variable 1) of the regression line is significantly greater than zero.

Staff Gauge 1, Immediately Preceding Recording Period

<i>Regression Statistics</i>	
Multiple R	0.28208371
R Square	0.079571219
Adjusted R Square	0.071425832
Standard Error	0.841381326
Observations	115

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	6.915602192	6.915602192	9.768868549	0.002256306
Residual	113	79.9952465	0.707922535		
Total	114	86.9108487			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.211052619	0.120893426	1.745774163	0.083568126	-0.028458969	0.450564207	-0.028458969	0.450564207
X Variable 1	0.679665889	0.217456974	3.125518925	0.002256306	0.248844569	1.110487209	0.248844569	1.110487209

Staff Gauge 1, 7 Days Preceding

<i>Regression Statistics</i>	
Multiple R	0.361098716
R Square	0.130392283
Adjusted R Square	0.122696639

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Standard Error	1.052291254
Observations	115

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	18.76198866	18.76198866	16.94364905	7.34944E-05
Residual	113	125.1268079	1.107316884		
Total	114	143.8887965			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.38233083	0.151197906	2.528678081	0.012829173	0.082780625	0.681881036	0.082780625	0.681881036
X Variable 1	1.119489197	0.271967139	4.116266397	7.34944E-05	0.58067345	1.658304944	0.58067345	1.658304944

Staff Gauge 1, 15 Days Preceding

Regression Statistics

Multiple R	0.586400696
R Square	0.343865776
Adjusted R Square	0.338059278
Standard Error	1.590645964
Observations	115

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	149.8379288	149.8379288	59.22085943	5.74644E-12
Residual	113	285.9074677	2.530154581		
Total	114	435.7453965			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.822078509	0.228551114	3.596913157	0.000479016	0.369277706	1.274879313	0.369277706	1.274879313
X Variable 1	3.163671287	0.411106175	7.695509043	5.74644E-12	2.349196123	3.978146452	2.349196123	3.978146452

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Staff Gauge 2, Immediately Preceding Recording Period

<i>Regression Statistics</i>	
Multiple R	0.269194885
R Square	0.072465886
Adjusted R Square	0.064184331
Standard Error	0.832384078
Observations	114

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	6.062744495	6.062744495	8.750275699	0.003777092
Residual	112	77.60068445	0.692863254		
Total	113	83.66342895			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.280036703	0.103011376	2.718502708	0.007601854	0.075932994	0.484140413	0.075932994	0.484140413
X Variable 1	0.690986483	0.233592386	2.958086493	0.003777092	0.228153399	1.153819567	0.228153399	1.153819567

Staff Gauge 2, 7 Days Preceding

<i>Regression Statistics</i>	
Multiple R	0.326701545
R Square	0.1067339
Adjusted R Square	0.09875831
Standard Error	1.043353564
Observations	114

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	14.56808798	14.56808798	13.38257074	0.0003887
Residual	112	121.9217059	1.08858666		
Total	113	136.4897939			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.505553977	0.129119824	3.915386197	0.000155482	0.249719755	0.761388199	0.249719755	0.761388199
X Variable 1	1.071115235	0.292796865	3.658219614	0.0003887	0.490976138	1.651254332	0.490976138	1.651254332

Staff Gauge 2, 15 Days Preceding

Regression Statistics

Multiple R	0.569004423
R Square	0.323766033
Adjusted R Square	0.31772823
Standard Error	1.614463741
Observations	114

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	139.7683753	139.7683753	53.62315035	3.97237E-11
Residual	112	291.9272353	2.606493172		
Total	113	431.6956105			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.151050961	0.199797347	5.761092314	7.45615E-08	0.755178374	1.546923548	0.755178374	1.546923548
X Variable 1	3.317717298	0.453067818	7.322782965	3.97237E-11	2.42002205	4.215412547	2.42002205	4.215412547

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Staff Gauge 3, Immediately Preceding Recording Period

<i>Regression Statistics</i>	
Multiple R	0.294201134
R Square	0.086554307
Adjusted R Square	0.078611301
Standard Error	0.832670174
Observations	117

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	7.555266869	7.555266869	10.89692073	0.001283379
Residual	115	79.73405621	0.693339619		
Total	116	87.28932308			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.379012623	0.085060827	4.455783403	1.95096E-05	0.210523566	0.54750168	0.210523566	0.54750168
X Variable 1	3.425373313	1.037662242	3.301048429	0.001283379	1.369964991	5.480781634	1.369964991	5.480781634

Staff Gauge 3, 7 Days Preceding

<i>Regression Statistics</i>	
Multiple R	0.403961878
R Square	0.163185199
Adjusted R Square	0.155908548
Standard Error	1.025846094
Observations	117

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	23.60009057	23.60009057	22.42586747	6.28305E-06
Residual	115	121.021424	1.052360208		
Total	116	144.6215145			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.638032706	0.104794576	6.088413468	1.54574E-08	0.430454908	0.845610503	0.430454908	0.845610503
X Variable 1	6.053964082	1.278395444	4.735595789	6.28305E-06	3.52170982	8.586218345	3.52170982	8.586218345

Staff Gauge 3, 15 Days Preceding

Regression Statistics

Multiple R	0.591811831
R Square	0.350241243
Adjusted R Square	0.344591167
Standard Error	1.57863976
Observations	117

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	154.4824181	154.4824181	61.98876515	2.11385E-12
Residual	115	286.5919016	2.492103492		
Total	116	441.0743197			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.593547034	0.161264818	9.881554162	4.8453E-17	1.274112602	1.912981466	1.274112602	1.912981466
X Variable 1	15.48896986	1.96727939	7.873294428	2.11385E-12	11.59216966	19.38577005	11.59216966	19.38577005

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Staff Gauge 4, Immediately Preceding Recording Period

Regression Statistics	
Multiple R	0.295231964
R Square	0.087161913
Adjusted R Square	0.078938146
Standard Error	0.843969091
Observations	113

ANOVA

	df	SS	MS	F	Significance F
Regression	1	7.549341309	7.549341309	10.59878244	0.001500753
Residual	111	79.06350471	0.712283826		
Total	112	86.61284602			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.199165242	0.119922669	1.660780601	0.099579741	-0.038469457	0.436799941	-0.038469457	0.436799941
X Variable 1	0.828887632	0.254605435	3.255577128	0.001500753	0.324370125	1.333405139	0.324370125	1.333405139

Staff Gauge 4, 7 Days Preceding

Regression Statistics	
Multiple R	0.351549598
R Square	0.12358712
Adjusted R Square	0.115691508
Standard Error	1.064312388
Observations	113

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	17.73069147	17.73069147	15.65263429	0.000134489
Residual	111	125.7364554	1.13276086		
Total	112	143.4671469			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.399362877	0.151232058	2.640728981	0.009464944	0.099686554	0.6990392	0.099686554	0.6990392
X Variable 1	1.270293178	0.321077776	3.956341023	0.000134489	0.634056332	1.906530024	0.634056332	1.906530024

Staff Gauge 4, 15 Days Preceding

Regression Statistics

Multiple R	0.531397783
R Square	0.282383603
Adjusted R Square	0.275918591
Standard Error	1.647478007
Observations	113

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	118.5521276	118.5521276	43.67873997	1.39839E-09
Residual	111	301.2743998	2.714183782		
Total	112	419.8265274			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.964542374	0.234096203	4.120282015	7.31658E-05	0.500665268	1.428419481	0.500665268	1.428419481
X Variable 1	3.28470072	0.497004997	6.60898933	1.39839E-09	2.299852452	4.269548987	2.299852452	4.269548987

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Staff Gauge 11, Immediately Preceding Recording Period

<i>Regression Statistics</i>	
Multiple R	0.280450782
R Square	0.078652641
Adjusted R Square	0.070570647
Standard Error	0.838804461
Observations	116

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	6.8472507	6.8472507	9.731835657	0.00229394
Residual	114	80.20959327	0.703592923		
Total	115	87.05684397			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.341304832	0.090979234	3.75145864	0.000278057	0.161075594	0.521534071	0.161075594	0.521534071
X Variable 1	1.890959937	0.606156748	3.119589021	0.00229394	0.690167572	3.091752302	0.690167572	3.091752302

Staff Gauge 11, 7 Days Preceding

<i>Regression Statistics</i>	
Multiple R	0.329219934
R Square	0.108385765
Adjusted R Square	0.100564587
Standard Error	1.064475229
Observations	116

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	15.70258752	15.70258752	13.85798554	0.00030792
Residual	114	129.1742564	1.133107513		
Total	115	144.876844			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.615842673	0.115456158	5.333995881	4.93137E-07	0.387124815	0.844560532	0.387124815	0.844560532
X Variable 1	2.863583324	0.769236304	3.722631534	0.00030792	1.339731476	4.387435171	1.339731476	4.387435171

Staff Gauge 11, 15 Days Preceding

Regression Statistics

Multiple R	0.472487571
R Square	0.223244505
Adjusted R Square	0.21643086
Standard Error	1.737508278
Observations	116

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	98.91338398	98.91338398	32.76433028	8.55398E-08
Residual	114	344.1585919	3.018935017		
Total	115	443.0719759			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.568417152	0.18845533	8.322487608	2.11868E-13	1.195088434	1.94174587	1.195088434	1.94174587
X Variable 1	7.187067823	1.255599389	5.724013477	8.55398E-08	4.699734038	9.674401608	4.699734038	9.674401608

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Staff Gauge 8, Immediately Preceding Recording Period

<i>Regression Statistics</i>	
Multiple R	0.233012198
R Square	0.054294684
Adjusted R Square	0.045925611
Standard Error	0.852937916
Observations	115

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	4.71970404	4.71970404	6.487538148	0.012207905
Residual	113	82.207849	0.727503089		
Total	114	86.92755304			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.367613287	0.093154571	3.946272126	0.000138264	0.183057352	0.552169222	0.183057352	0.552169222
X Variable 1	0.969588532	0.380668997	2.547064614	0.012207905	0.215414883	1.723762182	0.215414883	1.723762182

Staff Gauge 8, 7 Days Preceding

<i>Regression Statistics</i>	
Multiple R	0.202946143
R Square	0.041187137
Adjusted R Square	0.032702067
Standard Error	1.106797022
Observations	115

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	5.946236237	5.946236237	4.85407179	0.029609905
Residual	113	138.4249603	1.224999649		
Total	114	144.3711965			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.705533146	0.120880078	5.836637089	5.18469E-08	0.466048003	0.94501829	0.466048003	0.94501829
X Variable 1	1.088306359	0.493967151	2.203195813	0.029609905	0.109668719	2.066943999	0.109668719	2.066943999

Staff Gauge 8, 15 Days Preceding

Regression Statistics

Multiple R	0.325452718
R Square	0.105919471
Adjusted R Square	0.098007254
Standard Error	1.866059846
Observations	115

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	46.6153283	46.6153283	13.38682579	0.000386556
Residual	113	393.4862665	3.482179349		
Total	114	440.1015948			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.752775548	0.203803819	8.600307682	5.18382E-14	1.349003581	2.156547515	1.349003581	2.156547515
X Variable 1	3.047154403	0.832828647	3.658801141	0.000386556	1.397171283	4.697137523	1.397171283	4.697137523

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Staff Gauge 9, Immediately Preceding Recording Period

<i>Regression Statistics</i>	
Multiple R	0.178049598
R Square	0.031701659
Adjusted R Square	0.022898947
Standard Error	0.872132625
Observations	112

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	2.739242976	2.739242976	3.601351327	0.060354125
Residual	110	83.6676847	0.760615315		
Total	111	86.40692768			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.376470578	0.103659927	3.631785103	0.000429071	0.171040837	0.581900319	0.171040837	0.581900319
X Variable 1	0.611964071	0.322472868	1.897722669	0.060354125	-0.027101764	1.251029906	-0.027101764	1.251029906

Staff Gauge 9, 7 Days Preceding

<i>Regression Statistics</i>	
Multiple R	0.138446393
R Square	0.019167404
Adjusted R Square	0.010250744
Standard Error	1.130636653
Observations	112

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	2.747939758	2.747939758	2.149616995	0.145458351
Residual	110	140.6173165	1.278339241		
Total	111	143.3652563			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.731102722	0.134385195	5.440351698	3.25099E-07	0.464782683	0.997422761	0.464782683	0.997422761
X Variable 1	0.612934759	0.418055274	1.46615722	0.145458351	-0.215553061	1.441422578	-0.215553061	1.441422578

Staff Gauge 9, 15 Days Preceding

Regression Statistics

Multiple R	0.290065398
R Square	0.084137935
Adjusted R Square	0.075811916
Standard Error	1.86957339
Observations	112

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	35.32152944	35.32152944	10.10542224	0.001920172
Residual	110	384.4835125	3.495304659		
Total	111	419.805042			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.694253864	0.222213726	7.624433878	9.32495E-12	1.253878208	2.13462952	1.253878208	2.13462952
X Variable 1	2.197507656	0.691278683	3.178902678	0.001920172	0.827554916	3.567460397	0.827554916	3.567460397

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Staff Gauge 7, Immediately Preceding Recording Period

<i>Regression Statistics</i>	
Multiple R	0.383779129
R Square	0.14728642
Adjusted R Square	0.139672906
Standard Error	0.812917601
Observations	114

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	12.78411307	12.78411307	19.34539268	2.49715E-05
Residual	112	74.01352289	0.660835026		
Total	113	86.79763596			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.233176987	0.095670986	2.437280073	0.016371879	0.04361731	0.422736664	0.04361731	0.422736664
X Variable 1	1.306694714	0.297088171	4.398339764	2.49715E-05	0.718052951	1.895336478	0.718052951	1.895336478

Staff Gauge 7, 7 Days Preceding

<i>Regression Statistics</i>	
Multiple R	0.411755873
R Square	0.169542899
Adjusted R Square	0.162128103
Standard Error	1.033954618
Observations	114

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	24.44462492	24.44462492	22.8654853	5.32689E-06
Residual	112	119.734961	1.069062152		
Total	113	144.179586			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.488008295	0.121684482	4.010439833	0.000109671	0.246906241	0.729110349	0.246906241	0.729110349

Staff Gauge 7, 15 Days Preceding

Regression Statistics

Multiple R	0.647685092
R Square	0.419495978
Adjusted R Square	0.414312906
Standard Error	1.48252459
Observations	114

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	177.887078	177.887078	80.93578634	6.80718E-15
Residual	112	246.1624658	2.197879159		
Total	113	424.0495439			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.155479086	0.174475972	6.622568552	1.27577E-09	0.809777527	1.501180646	0.809777527	1.501180646
X Variable 1	4.874286287	0.541802168	8.996431867	6.80718E-15	3.800775407	5.947797166	3.800775407	5.947797166

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Staff Gauge 5, Immediately Preceding Recording Period

<i>Regression Statistics</i>	
Multiple R	0.196578009
R Square	0.038642913
Adjusted R Square	0.030059368
Standard Error	0.863152044
Observations	114

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	3.354113537	3.354113537	4.501975771	0.03606026
Residual	112	83.44352243	0.74503145		
Total	113	86.79763596			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.276538158	0.128320957	2.155050619	0.033299113	0.022286788	0.530789528	0.022286788	0.530789528
X Variable 1	0.24934985	0.11751885	2.121785986	0.03606026	0.016501456	0.482198243	0.016501456	0.482198243

Staff Gauge 5, 7 Days Preceding

<i>Regression Statistics</i>	
Multiple R	0.243755201
R Square	0.059416598
Adjusted R Square	0.051018532
Standard Error	1.100377068
Observations	114

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	8.56666053	8.56666053	7.075033418	0.008963161
Residual	112	135.6129254	1.210829691		
Total	113	144.179586			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.50243167	0.163588141	3.071320855	0.002675258	0.178302938	0.826560402	0.178302938	0.826560402
X Variable 1	0.398497875	0.14981723	2.659893497	0.008963161	0.101654423	0.695341328	0.101654423	0.695341328

Staff Gauge 5, 15 Days Preceding

Regression Statistics

Multiple R	0.485213937
R Square	0.235432564
Adjusted R Square	0.228606069
Standard Error	1.701402972
Observations	114

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	99.83507152	99.83507152	34.48805949	4.46792E-08
Residual	112	324.2144723	2.894772074		
Total	113	424.0495439			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.952382396	0.252939977	3.765250587	0.000266804	0.451214566	1.453550227	0.451214566	1.453550227
X Variable 1	1.360384885	0.231647394	5.872653531	4.46792E-08	0.901405552	1.819364218	0.901405552	1.819364218

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Staff Gauge 5A, Immediately Preceding Recording Period

Regression Statistics	
Multiple R	0.290970656
R Square	0.084663923
Adjusted R Square	0.076491279
Standard Error	0.841842363
Observations	114

ANOVA

	df	SS	MS	F	Significance F
Regression	1	7.341712635	7.341712635	10.35942926	0.001685297
Residual	112	79.37423912	0.708698564		
Total	113	86.71595175			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.108446202	0.142077423	0.76328948	0.446895585	-0.173061825	0.38995423	-0.173061825	0.38995423
X Variable 1	0.576230839	0.179031142	3.218606726	0.001685297	0.221503799	0.930957878	0.221503799	0.930957878

Staff Gauge 5A, 7 Days Preceding

Regression Statistics	
Multiple R	0.395803953
R Square	0.156660769
Adjusted R Square	0.149130954
Standard Error	1.041393214
Observations	114

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	22.56344763	22.56344763	20.80539536	1.30757E-05
Residual	112	121.4639804	1.084499825		
Total	113	144.0274281			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.174329327	0.175755546	0.991885213	0.32339161	-0.173907542	0.522566197	-0.173907542	0.522566197
X Variable 1	1.010184117	0.221468798	4.561293168	1.30757E-05	0.571372354	1.448995881	0.571372354	1.448995881

Staff Gauge 5A, 15 Days Preceding

Regression Statistics

Multiple R	0.596002688
R Square	0.355219205
Adjusted R Square	0.349462233
Standard Error	1.556268823
Observations	114

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	149.4416317	149.4416317	61.70244398	2.63953E-12
Residual	112	271.2609367	2.421972649		
Total	113	420.7025684			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.353174605	0.262650912	1.344654024	0.18145386	-0.167234186	0.873583396	-0.167234186	0.873583396
X Variable 1	2.599762091	0.33096527	7.855090323	2.63953E-12	1.943997239	3.255526943	1.943997239	3.255526943

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Piezometer 1, Immediately Preceding Recording Period

<i>Regression Statistics</i>	
Multiple R	0.218090537
R Square	0.047563482
Adjusted R Square	0.039208776
Standard Error	0.85336703
Observations	116

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	4.145855632	4.145855632	5.693016668	0.018680135
Residual	114	83.01882282	0.728235288		
Total	115	87.16467845			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.77603883	0.141806204	5.472530868	2.66656E-07	0.495121711	1.056955949	0.495121711	1.056955949
X Variable 1	0.183228282	0.076792938	2.386004331	0.018680135	0.031101999	0.335354565	0.031101999	0.335354565

Piezometer 1, 7 Days Preceding

<i>Regression Statistics</i>	
Multiple R	0.293609116
R Square	0.086206313
Adjusted R Square	0.078190579
Standard Error	1.075986417
Observations	116

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	12.45114663	12.45114663	10.75463732	0.001379864
Residual	114	131.9831318	1.15774677		
Total	115	144.4342784			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.331723251	0.178799443	7.448139816	1.95993E-11	0.977522779	1.685923722	0.977522779	1.685923722
X Variable 1	0.317533899	0.096826049	3.279426371	0.001379864	0.125722159	0.509345638	0.125722159	0.509345638

Piezometer 1, 15 Days Preceding

Regression Statistics

Multiple R	0.486242409
R Square	0.23643168
Adjusted R Square	0.229733712
Standard Error	1.68713033
Observations	116

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	100.4754324	100.4754324	35.29901753	3.13801E-08
Residual	114	324.4905977	2.846408752		
Total	115	424.9660302			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	3.48063411	0.280354806	12.41510412	6.56869E-23	2.92525316	4.036015059	2.92525316	4.036015059
X Variable 1	0.902018332	0.151821772	5.94129763	3.13801E-08	0.601260443	1.202776221	0.601260443	1.202776221

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Piezometer 2, Immediately Preceding Recording Period

<i>Regression Statistics</i>	
Multiple R	0.205258338
R Square	0.042130985
Adjusted R Square	0.033008423
Standard Error	0.874028977
Observations	107

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	3.528064003	3.528064003	4.618328195	0.033929527
Residual	105	80.21229861	0.763926653		
Total	106	83.74036262			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.774552009	0.152481882	5.079633078	1.65063E-06	0.47220839	1.076895628	0.47220839	1.076895628
X Variable 1	0.161201066	0.075011096	2.149029594	0.033929527	0.012467813	0.309934319	0.012467813	0.309934319

Piezometer 2, 7 Days Preceding

<i>Regression Statistics</i>	
Multiple R	0.242328485
R Square	0.058723095
Adjusted R Square	0.049758553
Standard Error	1.088832509
Observations	107

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	7.766100206	7.766100206	6.550596243	0.011909132
Residual	105	124.4834045	1.185556233		
Total	106	132.2495047			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.268444571	0.189956207	6.677563153	1.18613E-09	0.891796234	1.645092908	0.891796234	1.645092908
X Variable 1	0.239166956	0.09344601	2.559413261	0.011909132	0.053880649	0.424453263	0.053880649	0.424453263

Piezometer 2, 15 Days Preceding

Regression Statistics

Multiple R	0.45931414
R Square	0.210969479
Adjusted R Square	0.203454903
Standard Error	1.712802177
Observations	107

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	82.36250365	82.36250365	28.07470021	6.4799E-07
Residual	105	308.0375861	2.933691296		
Total	106	390.4000897			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	3.456561044	0.298813089	11.567636	1.89507E-20	2.864069466	4.049052622	2.864069466	4.049052622
X Variable 1	0.778869058	0.146996464	5.298556427	6.4799E-07	0.487402017	1.0703361	0.487402017	1.0703361

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Piezometer 3, Immediately Preceding Recording Period

<i>Regression Statistics</i>	
Multiple R	0.23973338
R Square	0.057472093
Adjusted R Square	0.049131138
Standard Error	0.851968771
Observations	115

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	5.001365497	5.001365497	6.890349355	0.009865301
Residual	113	82.02113885	0.725850786		
Total	114	87.02250435			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.736945648	0.120622546	6.109518272	1.45427E-08	0.497970721	0.975920574	0.497970721	0.975920574
X Variable 1	0.149401546	0.056916013	2.624947496	0.009865301	0.036640702	0.262162389	0.036640702	0.262162389

Piezometer 3, 7 Days Preceding

<i>Regression Statistics</i>	
Multiple R	0.3025585
R Square	0.091541646
Adjusted R Square	0.083502192
Standard Error	1.074884462
Observations	115

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	13.15575292	13.15575292	11.38654949	0.001014348
Residual	113	130.5575566	1.155376607		
Total	114	143.7133096			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.239190919	0.152183161	8.142759777	5.69208E-13	0.937688747	1.540693092	0.937688747	1.540693092
X Variable 1	0.242308499	0.071807958	3.374396166	0.001014348	0.100044038	0.384572961	0.100044038	0.384572961

Piezometer 3, 15 Days Preceding

Regression Statistics

Multiple R	0.526849789
R Square	0.2775707
Adjusted R Square	0.271177521
Standard Error	1.640616413
Observations	115

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	116.8613279	116.8613279	43.41669022	1.46337E-09
Residual	113	304.1533103	2.691622215		
Total	114	421.0146383			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	3.268094066	0.232280026	14.06963017	1.35499E-26	2.807905618	3.728282514	2.807905618	3.728282514
X Variable 1	0.72218124	0.10960184	6.589134254	1.46337E-09	0.505040311	0.939322169	0.505040311	0.939322169

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Piezometer 4, Immediately Preceding Recording Period

<i>Regression Statistics</i>	
Multiple R	0.253257881
R Square	0.064139554
Adjusted R Square	0.055783657
Standard Error	0.851656411
Observations	114

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	5.567519005	5.567519005	7.675962915	0.006553387
Residual	112	81.23568801	0.725318643		
Total	113	86.80320702			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.814457951	0.140023474	5.816581529	5.78295E-08	0.537019559	1.091896344	0.537019559	1.091896344
X Variable 1	0.21973284	0.079310107	2.770552818	0.006553387	0.062590127	0.376875554	0.062590127	0.376875554

Piezometer 4, 7 Days Preceding

<i>Regression Statistics</i>	
Multiple R	0.25859095
R Square	0.066869279
Adjusted R Square	0.058537755
Standard Error	1.093323299
Observations	114

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	9.59399273	9.59399273	8.026055867	0.005469747
Residual	112	133.8798538	1.195355837		
Total	113	143.4738465			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.267058412	0.179756677	7.048741855	1.56718E-10	0.91089382	1.623223005	0.91089382	1.623223005
X Variable 1	0.288445527	0.101815223	2.833029451	0.005469747	0.086711837	0.490179216	0.086711837	0.490179216

Piezometer 4, 15 Days Preceding

Regression Statistics

Multiple R	0.460057954
R Square	0.211653321
Adjusted R Square	0.204614512
Standard Error	1.720919439
Observations	114

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	89.05267077	89.05267077	30.06947657	2.60924E-07
Residual	112	331.6951362	2.961563716		
Total	113	420.747807			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	3.390791869	0.282941706	11.98406526	8.50622E-22	2.830179495	3.951404244	2.830179495	3.951404244
X Variable 1	0.878795025	0.160259822	5.483564221	2.60924E-07	0.561260928	1.196329123	0.561260928	1.196329123

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Piezometer 5, Immediately Preceding Recording Period

<i>Regression Statistics</i>	
Multiple R	0.268193551
R Square	0.071927781
Adjusted R Square	0.063786796
Standard Error	0.842381318
Observations	116

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	6.269561883	6.269561883	8.835268247	0.003605349
Residual	114	80.89511656	0.709606286		
Total	115	87.16467845			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.82186114	0.134824577	6.09578132	1.52164E-08	0.554774576	1.088947704	0.554774576	1.088947704
X Variable 1	0.19379647	0.065198258	2.972417913	0.003605349	0.064639168	0.322953772	0.064639168	0.322953772

Piezometer 5, 7 Days Preceding

<i>Regression Statistics</i>	
Multiple R	0.28118907
R Square	0.079067293
Adjusted R Square	0.070988936
Standard Error	1.080181316
Observations	116

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	11.42002745	11.42002745	9.787546221	0.002230857
Residual	114	133.014251	1.166791675		
Total	115	144.4342784			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.285991155	0.172884875	7.438424857	2.05939E-11	0.943507402	1.628474909	0.943507402	1.628474909
X Variable 1	0.261553682	0.083603397	3.128505429	0.002230857	0.095935925	0.427171439	0.095935925	0.427171439

Piezometer 5, 15 Days Preceding

Regression Statistics

Multiple R	0.500938173
R Square	0.250939053
Adjusted R Square	0.244368343
Standard Error	1.671026203
Observations	116

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	106.6405732	106.6405732	38.19055332	1.02255E-08
Residual	114	318.325457	2.79232857		
Total	115	424.9660302			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	3.445496232	0.267450615	12.88273813	5.52347E-24	2.915678397	3.975314067	2.915678397	3.975314067
X Variable 1	0.799260775	0.129333349	6.17985059	1.02255E-08	0.543052297	1.055469254	0.543052297	1.055469254

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Piezometer 6, Immediately Preceding Recording Period

<i>Regression Statistics</i>	
Multiple R	0.154336979
R Square	0.023819903
Adjusted R Square	0.01525692
Standard Error	0.863709589
Observations	116

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	2.075154206	2.075154206	2.781729477	0.098089829
Residual	114	85.04334493	0.745994254		
Total	115	87.11849914			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.68535031	0.139528571	4.911899447	3.04067E-06	0.408945167	0.961755452	0.408945167	0.961755452
X Variable 1	0.137799488	0.082620945	1.667851755	0.098089829	-0.025872038	0.301471013	-0.025872038	0.301471013

Piezometer 6, 7 Days Preceding

<i>Regression Statistics</i>	
Multiple R	0.176932515
R Square	0.031305115
Adjusted R Square	0.022807791
Standard Error	1.107623953
Observations	116

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	4.519785517	4.519785517	3.684114744	0.057432702
Residual	114	139.8587136	1.226830821		
Total	115	144.3784991			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.125964029	0.178931888	6.292696309	5.97443E-09	0.771501186	1.480426872	0.771501186	1.480426872
X Variable 1	0.203367397	0.105953365	1.919404789	0.057432702	-0.006525494	0.413260287	-0.006525494	0.413260287

Piezometer 6, 15 Days Preceding

<i>Regression Statistics</i>	
Multiple R	0.352312519
R Square	0.124124111
Adjusted R Square	0.116440989
Standard Error	1.840837776
Observations	116

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	54.74563107	54.74563107	16.15542659	0.000105082
Residual	114	386.3099439	3.388683719		
Total	115	441.055575			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	3.110637196	0.297379429	10.46016267	2.33296E-18	2.521530586	3.699743806	2.521530586	3.699743806
X Variable 1	0.707778147	0.176091314	4.01938137	0.000105082	0.35894246	1.056613833	0.35894246	1.056613833

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

Piezometer 7, Immediately Preceding Recording Period

<i>Regression Statistics</i>	
Multiple R	0.232476482
R Square	0.054045315
Adjusted R Square	0.045747466
Standard Error	0.850232953
Observations	116

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	4.708346686	4.708346686	6.5131723	0.012030835
Residual	114	82.41015245	0.722896074		
Total	115	87.11849914			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.90129046	0.177727154	5.071202908	1.54572E-06	0.549214186	1.253366734	0.549214186	1.253366734
X Variable 1	0.205115714	0.080371606	2.55209175	0.012030835	0.045900112	0.364331315	0.045900112	0.364331315

Piezometer 7, 7 Days Preceding

<i>Regression Statistics</i>	
Multiple R	0.28107172
R Square	0.079001312
Adjusted R Square	0.070922376
Standard Error	1.080011405
Observations	116

Appendix H – Rainfall, Piezometer, and Staff Gauge Data and Regression Analyses

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	11.40609081	11.40609081	9.778677916	0.002240778
Residual	114	132.9724083	1.166424634		
Total	115	144.3784991			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.477417331	0.225758544	6.544236634	1.77628E-09	1.030191204	1.924643459	1.030191204	1.924643459
X Variable 1	0.319251634	0.102092316	3.127087769	0.002240778	0.117007455	0.521495813	0.117007455	0.521495813

Piezometer 7, 15 Days Preceding

Regression Statistics

Multiple R	0.427884549
R Square	0.183085187
Adjusted R Square	0.175919268
Standard Error	1.777798838
Observations	116

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	80.75074239	80.75074239	25.54943426	1.65929E-06
Residual	114	360.3048326	3.160568707		
Total	115	441.055575			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	3.815436807	0.37161948	10.26705276	6.59861E-18	3.079261164	4.551612449	3.079261164	4.551612449
X Variable 1	0.849450307	0.168053412	5.05464482	1.65929E-06	0.51653765	1.182362964	0.51653765	1.182362964

IMAGE QUALITY

**AS YOU REVIEW THE NEXT FEW PAGES,
PLEASE NOTE THAT THE ORIGINAL
DOCUMENT WAS OF POOR QUALITY.**

Success Criteria for Wetland and Upland Mitigation Sites*

Orlando Utilities Commission, Stanton Energy Center Unit 2, Orlando, Florida, May 28, 1993

Success Criteria*						
Mitigation Site		Year 1	Year 2	Year 3	Year 4	Year 5
3.1 Railroad North						
Cypress Seedling Planting (400 seedlings per acre; 10"-12" in 4" cones)	Success	Trending toward Ultimate Success Criteria (Refer to Year 5).	Trending toward Ultimate Success Criteria (Refer to Year 5).	Trending toward Ultimate Success Criteria (Refer to Year 5).	Trending toward Ultimate Success Criteria (Refer to Year 5).	Ultimate Success Criteria - 400 wetland trees/acre above the herbaceous stratum, and/or tree cover >33%, with no area greater than 1 acre having < 20% cover. - 80% of cover in herbaceous & subcanopy strata shall be USFWS listed as facultative wet or obligate.*** - Cover by nuisance, non-wetland and exotic species is less than 10%**. - The area is jurisdictional. - Mitigation was completed as approved..
	Remedy	Replant with 10" - 12" potted cypress seedlings to reach 33% total cover. Herbicide or hand clear nuisance, exotic plants to <10% cover	Replant with 10" - 12" potted cypress seedlings to reach 33% total cover. Herbicide or hand clear nuisance, exotic plants to <10% cover	Replant with 3" tall seedlings to reach 33% total cover. Herbicide or hand clear nuisance, exotic plants to <10% cover	Replant with 3" tall seedlings to reach 33% total cover. Herbicide or hand clear nuisance, exotic plants to <10% cover	Reassess site and mitigation methods, continue monitoring.
Longleaf Pine Seedling Planting (500 seedlings per acre; 2 year old containerized)	Success	Trending toward ultimate goal; seedling succeeding based upon the growth parameter of height.	Trending toward ultimate goal; seedling succeeding based upon the growth parameter of height.	Trending toward ultimate goal; seedling succeeding based upon the growth parameter of height.	Trending toward ultimate goal; seedling succeeding based upon the growth parameter of height.	Ultimate Success Criterion: Average density 300 seedlings/acre
	Remedy	Replant as necessary, using two year old potted seedlings.	Replant as necessary, using two year old potted seedlings.	Replant as necessary, using two year old potted seedlings.	Replant as necessary, using two year old potted seedlings.	Reassess site and mitigation methods; continue monitoring.
Longleaf Pine Tree Planting (10" - 15" tall; average 8" centers)	Success	100% survival	100% survival	100% survival	100% survival	Same # of pines as originally planted
	Remedy	Replace each dead tree with 10" - 15" tree	Replace each dead tree with 10" - 15" tree	Replace each dead tree with 10" - 15" tree	Replace each dead tree with 10" - 15" tree	Reassess site; plant a different species of pine. Continue monitoring.
3.2 Railroad South						
Cypress Seedlings (400 seedlings/acre 10" - 12" in 4" cones)	Success	Trending toward Ultimate Success Criteria (Refer to Year 5).	Trending toward Ultimate Success Criteria (Refer to Year 5).	Trending toward Ultimate Success Criteria (Refer to Year 5).	Trending toward Ultimate Success Criteria (Refer to Year 5).	Ultimate Success Criteria - 400 wetland trees/acre above the herbaceous stratum, and/or tree cover >33%, with no area greater than 1 acre having < 20% cover. - 80% of cover in herbaceous & subcanopy strata shall be USFWS listed as Facultative wet or obligate.*** - Cover by nuisance, non-wetland and exotic species is less than 10%**. - The area is jurisdictional. - Mitigation was completed as approved.
	Remedy	Replant with 10" - 12" potted cypress seedlings to reach 33% of total cover. Herbicide or hand clear nuisance, exotic plants to <10% cover	Replant with 10" - 12" potted cypress seedlings to reach 33% of total cover. Herbicide or hand clear nuisance, exotic plants to <10% cover	Replant with 10" - 12" potted cypress seedlings to reach 33% of total cover. Herbicide or hand clear nuisance, exotic plants to <10% cover	Replant with 10" - 12" potted cypress seedlings. Herbicide or hand clear nuisance, exotic plants to <10% cover	Reassess site and mitigation methods; continue monitoring.
Longleaf Pine Seedlings (500 seedlings per acre; 2 year old containerized)	Success	Trending toward ultimate goal; seedling succeeding based upon the growth parameter of height.	Trending toward ultimate goal; seedling succeeding based upon the growth parameter of height.	Trending toward ultimate goal; seedling succeeding based upon the growth parameter of height.	Trending toward ultimate goal; seedling succeeding based upon the growth parameter of height.	Ultimate Success Criterion: Average density 300 seedlings/acre
	Remedy	Replant as necessary, using two year old potted seedlings.	Replant as necessary, using two year old potted seedlings.	Replant as necessary, using two year old potted seedlings.	Replant as necessary, using two year old potted seedlings.	Reassess site and mitigation methods; continue monitoring.
Slash Pine Trees (10" - 15" trees at average 8" centers)	Success	100% survival	100% survival	100% survival	100% survival	Reassess site and mitigation method
	Remedy	Replace each dead tree with a 10" - 15" tall tree.	Replace each dead tree with a 10" - 15" tall tree.	Replace each dead tree with a 10" - 15" tall tree.	Replace each dead tree with a 10" - 15" tall tree.	Reassess site and mitigation methods, continue monitoring.
Cypress Trees (10" - 15" trees at average 8" centers)	Success	95% survival	95% survival	95% survival	95% survival	Ultimate success criterion is 95% survival, 5 years after last planting
	Remedy	Replace each dead tree with a 10" - 15" tall tree	Replace each dead tree with a 10" - 15" tall tree	Replace each dead tree with a 10" - 15" tall tree	Replace each dead tree with a 10" - 15" tall tree	Reassess site and mitigation method; continue monitoring.

Appendix I - Mitigation Area Success Criteria

Success Criteria*						
Mitigation Site		Year 1	Year 2	Year 3	Year 4	Year 5
3.3 RCW-West						
Longleaf Pine Seedlings (300 seedlings per acre; 2 year old containerized)	Success	≥80% survival from planting (240/acre)	≥80% survival from planting (240/acre)	≥85% survival from Year 2 (200/acre)	≥85% survival from Year 3 (175/acre)	≥85% survival from Year 4 (Average density 150/acre)
	Remedy	Replant to reach 80% survival, using two year old potted seedlings.	Replant to reach 80% survival, using two year old potted seedlings.	Replant to reach 80% survival, using two year old potted seedlings.	Replant to reach 80% survival, using two year old potted seedlings.	Reassess site and mitigation methods; continue monitoring.
3.4 Transmission Line North						
Longleaf Pine Trees (10' - 15' tall; average 8' centers)	Success	100% survival	100% survival	100% survival	100% survival	100% survival
	Remedy	Replant each dead tree with a 10' - 15' tall tree.	Replant each dead tree with a 10' - 15' tall tree.	Replant each dead tree with a 10' - 15' tall tree.	Replant each dead tree with a 10' - 15' tall tree.	Reassess site and mitigation methods; continue monitoring.
3.5 East Prairies						
Herbaceous Wetlands	Success	Trending toward Ultimate Success Criteria (Refer to Year 5). • Encroachment by woody vegetation other than cypress is controlled. • Herbaceous wetlands show an increasing trend in the % frequency of occurrence of wetland species (USFWS obligate, FAC-wet) in ≥ 95% of plots 2, 3, 4. • In existing wetlands, the % frequency of occurrence of upland (i.e., not on the USFWS obligate and FAC-W lists), exotic and nuisance species show a decreasing trend. • The relative % frequency of occurrence of exotic and nuisance species (including <i>Myrica cerifera</i>) is less than 10%.	Trending toward Ultimate Success Criteria (Refer to Year 5). • Encroachment by woody vegetation other than cypress is controlled. • Herbaceous wetlands show an increasing trend in the % frequency of occurrence of wetland species (USFWS obligate, FAC-wet) in ≥ 95% of plots 2, 3, 4. • In existing wetlands, the % frequency of occurrence of upland (i.e., not on the USFWS obligate and FAC-W lists), exotic and nuisance species show a decreasing trend. • The relative % frequency of occurrence of exotic and nuisance species (including <i>Myrica cerifera</i>) is less than 10%.	Trending toward Ultimate Success Criteria (Refer to Year 5). • Encroachment by woody vegetation other than cypress is controlled. • Herbaceous wetlands show an increasing trend in the % frequency of occurrence of wetland species (USFWS obligate, FAC-wet) in ≥ 95% of plots 2, 3, 4. • In existing wetlands, the % frequency of occurrence of upland (i.e., not on the USFWS obligate and FAC-W lists), exotic and nuisance species show a decreasing trend. • The relative % frequency of occurrence of exotic and nuisance species (including <i>Myrica cerifera</i>) is less than 10%.	Trending toward Ultimate Success Criteria (Refer to Year 5). • Encroachment by woody vegetation other than cypress is controlled. • Herbaceous wetlands show an increasing trend in the % frequency of occurrence of wetland species (USFWS obligate, FAC-wet) in ≥ 95% of plots 2, 3, 4. • In existing wetlands, the % frequency of occurrence of upland (i.e., not on the USFWS obligate and FAC-W lists), exotic and nuisance species show a decreasing trend. • The relative % frequency of occurrence of exotic and nuisance species (including <i>Myrica cerifera</i>) is less than 10%.	Ultimate Success Criteria* • Encroachment by woody vegetation other than cypress is controlled. • Wetland species in all strata are reproducing naturally either by fruiting or vegetative spread.*** • Vegetation boundaries have shifted outward and upward along the elevational gradient, based upon visual observation. • Herbaceous wetlands show an increased % frequency of occurrence of wetland species (USFWS obligate, FAC-wet) in ≥ 95% of plots 2, 3, 4. • After a minimum of 5 years, jurisdictional area has increased in size. • The relative % frequency of occurrence of exotic and nuisance species (including <i>Myrica cerifera</i>) is less than 10%. • The relative frequency of occurrence of non-listed or upland species (USFWS FAC-U) and relative % frequency of occurrence is less than the percent frequency occurrence value of the baseline data. • A success determination shall not occur sooner than 5 years after the completion of the dredge and fill in the enhancement areas.
	Remedy	Apply herbicide or hand- clear nuisance/exotic species to <10% canopy; remove encroaching woody vegetation.	Apply herbicide or hand- clear nuisance/exotic species to <10% canopy; remove encroaching woody vegetation.	Apply herbicide or hand- clear nuisance/exotic species to <10% canopy; remove encroaching woody vegetation.	Apply herbicide or hand- clear nuisance/exotic species to <10% canopy; remove encroaching woody vegetation.	Reassess site and mitigation methods; continue monitoring.
Cypress Domes (hydrologic enhancement)	Success	Trending toward Ultimate Success Criteria (Refer to Year 5).	Trending toward Ultimate Success Criteria (Refer to Year 5).	Trending toward Ultimate Success Criteria (Refer to Year 5).	Trending toward Ultimate Success Criteria (Refer to Year 5).	Ultimate Success Criteria: • Wetland canopy trees are not dying at an accelerated rate due to the altered hydroperiod, as indicated by annual aerial photography and groundtruthing. • Wetland species in all strata are reproducing naturally either by fruiting or vegetative spread*** • Cover of nuisance non-wetland and exotic species is less than 10%.** • The mitigation was performed as approved, and increased the hydroperiod in the wetland, as evidenced by attainment of the success criteria.
	Remedy	Apply herbicide or hand- clear nuisance/exotic species to <10% canopy.	Apply herbicide or hand- clear nuisance/exotic species to <10% canopy.	Apply herbicide or hand- clear nuisance/exotic species to <10% canopy.	Apply herbicide or hand- clear nuisance/exotic species to <10% canopy.	Reassess site and mitigation methods; continue monitoring.
Longleaf Pine Seedlings (300 seedlings per acre; 2 year old containerized)	Success	Trending toward ultimate goal; seedling succeeding based upon the growth parameter of height.	Trending toward ultimate goal; seedling succeeding based upon the growth parameter of height.	Trending toward ultimate goal; seedling succeeding based upon the growth parameter of height.	Trending toward ultimate goal; seedling succeeding based upon the growth parameter of height.	Ultimate Success Criterion: Average density 300 seedlings/acre
	Remedy	Replant as necessary, using two year old potted seedlings.	Replant as necessary, using two year old potted seedlings.	Replant as necessary, using two year old potted seedlings.	Replant as necessary, using two year old potted seedlings.	Reassess site and mitigation methods; continue monitoring.

Appendix I - Mitigation Area Success Criteria

Success Criteria*						
Mitigation Site		Year 1	Year 2	Year 3	Year 4	Year 5
1.4 RCD East and West						
Herbaceous Wetlands (hydrologic enhancement)	Success	Trending toward Ultimate Success Criteria (Refer to Year 5). • Encroachment by woody vegetation other than cypress is controlled. • Herbaceous wetlands show an increasing trend in the % frequency of occurrence of wetland species (USFWS obligate, FAC-wet) in ≥ 95% of plots 2, 3, 4. • In existing wetlands, the % frequency of occurrence of upland (i.e., not on the USFWS obligate and FAC-W lists), exotic and nuisance species show a decreasing trend. • The relative % frequency of occurrence of exotic and nuisance species (including <i>Myrica cerifera</i>) is less than 10%.	Trending toward Ultimate Success Criteria (Refer to Year 5). • Encroachment by woody vegetation other than cypress is controlled. • Herbaceous wetlands show an increasing trend in the % frequency of occurrence of wetland species (USFWS obligate, FAC-wet) in ≥ 95% of plots 2, 3, 4. • In existing wetlands, the % frequency of occurrence of upland (i.e., not on the USFWS obligate and FAC-W lists), exotic and nuisance species show a decreasing trend. • The relative % frequency of occurrence of exotic and nuisance species (including <i>Myrica cerifera</i>) is less than 10%.	Trending toward Ultimate Success Criteria (Refer to Year 5). • Encroachment by woody vegetation other than cypress is controlled. • Herbaceous wetlands show an increasing trend in the % frequency of occurrence of wetland species (USFWS obligate, FAC-wet) in ≥ 95% of plots 2, 3, 4. • In existing wetlands, the % frequency of occurrence of upland (i.e., not on the USFWS obligate and FAC-W lists), exotic and nuisance species show a decreasing trend. • The relative % frequency of occurrence of exotic and nuisance species (including <i>Myrica cerifera</i>) is less than 10%.	Trending toward Ultimate Success Criteria (Refer to Year 5). • Encroachment by woody vegetation other than cypress is controlled. • Herbaceous wetlands show an increasing trend in the % frequency of occurrence of wetland species (USFWS obligate, FAC-wet) in ≥ 95% of plots 2, 3, 4. • In existing wetlands, the % frequency of occurrence of upland (i.e., not on the USFWS obligate and FAC-W lists), exotic and nuisance species show a decreasing trend. • The relative % frequency of occurrence of exotic and nuisance species (including <i>Myrica cerifera</i>) is less than 10%.	Ultimate Success Criteria* • Encroachment by woody vegetation other than cypress is controlled. • Wetland species in all strata are reproducing naturally either by fruiting or vegetative spread.*** • Vegetation boundaries have shifted outward and upward along the elevational gradient, based upon visual observation. • Herbaceous wetlands show an increased % frequency of occurrence of wetland species (USFWS obligate, FAC-wet) in ≥ 95% of plots 2, 3, 4. • After a minimum of 5 years, jurisdictional area has increased in size. • The relative % frequency of occurrence of exotic and nuisance species (including <i>Myrica cerifera</i>) is less than 10%. • The relative frequency of occurrence of non listed or upland species (USFWS FAC-W) and obligate upland) after five years is less than the percent frequency occurrence value of the baseline data. • A success determination shall not occur sooner than 5 years after the completion of the dredge and fill in the enhancement areas.
	Remedy	Apply herbicide or hand-clear nuisance/exotic species to <10% canopy; remove encroaching woody vegetation.	Apply herbicide or hand-clear nuisance/exotic species to <10% canopy; remove encroaching woody vegetation.	Apply herbicide or hand-clear nuisance/exotic species to <10% canopy; remove encroaching woody vegetation.	Apply herbicide or hand-clear nuisance/exotic species to <10% canopy; remove encroaching woody vegetation.	Reassess site and mitigation methods; continue monitoring.
Cypress Domes enhancement	Success	Trending toward Ultimate Success Criteria (Refer to Year 5).	Trending toward Ultimate Success Criteria (Refer to Year 5).	Trending toward Ultimate Success Criteria (Refer to Year 5).	Trending toward Ultimate Success Criteria (Refer to Year 5).	Ultimate Success Criteria: • Wetland canopy trees are not dying at an accelerated rate due to the altered hydroperiod, as indicated by annual aerial photography and groundtruthing. • Wetland species in all strata are reproducing naturally either by fruiting or vegetative spread.*** • Cover of nuisance non-wetland and exotic species is less than 10%.** • The mitigation was performed as approved, and increased the hydroperiod in the wetland, as evidenced by attainment of the success criteria.
	Remedy	Apply herbicide or hand-clear nuisance/exotic species to <10% canopy.	Apply herbicide or hand-clear nuisance/exotic species to <10% canopy.	Apply herbicide or hand-clear nuisance/exotic species to <10% canopy.	Apply herbicide or hand-clear nuisance/exotic species to <10% canopy.	Reassess enhancement techniques; apply herbicide on hand-clear nuisance/exotic species to <10% canopy; continue monitoring.
Longleaf Pine Seedlings (500 seedlings per acre; 2 year old containerized) (RCD-West)	Success	Trending toward ultimate goal; seedling succeeding based upon the growth parameter of height.	Trending toward ultimate goal; seedling succeeding based upon the growth parameter of height.	Trending toward ultimate goal; seedling succeeding based upon the growth parameter of height.	Trending toward ultimate goal; seedling succeeding based upon the growth parameter of height.	Ultimate Success Criterion: Average density 300 seedlings/acre
	Remedy	Replant as necessary, using two year old potted seedlings.	Replant as necessary, using two year old potted seedlings.	Replant as necessary, using two year old potted seedlings.	Replant as necessary, using two year old potted seedlings.	Reassess site and mitigation methods; continue monitoring.
Cypress Seedlings (400 seedlings per acre; 10" - 12" in 4' cones) (RCD-East)	Success	Trending toward Ultimate Success Criteria (Refer to Year 5).	Trending toward Ultimate Success Criteria (Refer to Year 5).	Trending toward Ultimate Success Criteria (Refer to Year 5).	Trending toward Ultimate Success Criteria (Refer to Year 5).	Ultimate Success Criteria • 400 wetland trees/acre above the herbaceous stratum, and/or tree cover > 33%, with no area greater than 1 acre having <20% cover. • 80% of cover in herbaceous & subcanopy strata shall be USFWS listed as Facultative wet or obligate.*** • Cover by nuisance, non-wetland and exotic species is less than 10%.** • The area is jurisdictional. • Mitigation was completed as approved.
	Remedy	Replant with 10" - 12" potted cypress seedlings to reach 33% total cover. Herbicide or hand clear nuisance/exotic species to <10% cover.	Replant with 10" - 12" potted cypress seedlings to reach 33% total cover. Herbicide or hand clear nuisance/exotic species to <10% cover.	Replant with 3' tall seedlings to reach 33% total cover. Herbicide or hand clear nuisance/exotic species to <10% cover.	Replant with 3' tall seedlings to reach 33% total cover. Herbicide or hand clear nuisance/exotic species to <10% cover.	Reassess site and mitigation methods; continue monitoring.

Appendix I - Mitigation Area Success Criteria

Success Criteria*						
Mitigation Site		Year 1	Year 2	Year 3	Year 4	Year 5
3.7 Railroad Loop						
Staff Gauge #8	Success	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuation at staff gauges and piezometers (monthly reading).	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuation at staff gauges and piezometers (monthly reading).	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuation at staff gauges and piezometers (monthly reading).	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuation at staff gauges and piezometers (monthly reading).	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuation at staff gauges and piezometers (monthly reading).
	Remedy	Adjust weir	Adjust weir	Adjust weir	Adjust weir	Reassess enhancement and success; continue monitoring.
Staff Gauge #9	Success	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuation at staff gauges and piezometers (monthly reading).	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuation at staff gauges and piezometers (monthly reading).	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuation at staff gauges and piezometers (monthly reading).	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuation at staff gauges and piezometers (monthly reading).	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuation at staff gauges and piezometers (monthly reading).
	Remedy	Adjust weir	Adjust weir	Adjust weir	Adjust weir	Reassess enhancement and success; continue monitoring.
Piezometer #6	Success	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuation at staff gauges and piezometers (monthly readings).	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuation at staff gauges and piezometers (monthly readings).	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuation at staff gauges and piezometers (monthly readings).	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuation at staff gauges and piezometers (monthly readings).	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuation at staff gauges and piezometers (monthly readings).
	Remedy	Adjust weir	Adjust weir	Adjust weir	Adjust weir	Reassess enhancement and success; continue monitoring.
Piezometer #7	Success	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuation at staff gauges and piezometers (monthly readings).	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuation at staff gauges and piezometers (monthly readings).	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuation at staff gauges and piezometers (monthly readings).	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuation at staff gauges and piezometers (monthly readings).	Return of a more natural seasonally fluctuating hydroperiod, as indicated by seasonal water level fluctuation at staff gauges and piezometers (monthly readings).
	Remedy	Adjust weir	Adjust weir	Adjust weir	Adjust weir	Reassess enhancement and success; adjust weir; continue monitoring.

*Each mitigation site will be monitored until it has achieved success. If success is not attained in Year 5, monitoring will continue and site will be reassessed. When success is attained, no further mitigation monitoring will occur, and the mitigation site will then be managed as part of the overall Stanton Energy Center management plan.

**To ensure that undesirable species do not overrun a mitigation area. "Nuisance/wetland species" are defined as *Typha latifolia* and *Ludwigia peruviana*.

***Source of wetland categories for plant species is Reed, P.B., Jr., 1988. Wetland Plants of the State of Florida 1988. (A subset of Southeast (Region 2). U.S. Fish Wildl. Serv. Biol. Rep. 88 (26.2))

****Vegetation reproduction by fruiting will be assumed based upon the presence of fruit on the plants.